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In Memory of

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ON THE
STATURE AND BULK OF MAN
IN THE
BRITISH ISLES.

BY
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C O N T E N T S.

Objects and method of investigation	1— 11
Tables—Private Returns—Scotland	12— 43
England and Wales	...	...	44—111
Ireland	...	...	112—113
Lunatics—Scotland	...	...	114—119
England, &c.	...	...	120—137
Criminals	...	...	138—143
Military Returns	...	...	144—147
 Commentary—			
Differences of Stature in Recruits, according to Occupations	...	...	148—155
Physical Peculiarities of Lunatics and Criminals	...	...	156—157
Topographical Survey	...	...	158—163
Average Stature, &c., in the Three Kingdoms	...	...	163—164
in other countries	...	...	165 & 167
Exclusion of short men from the army	...	...	165—166
Influence of Race on Stature	...	...	166—170
Cross-breeding do....	...	...	170—171
Relation of stature to hair-colour	...	...	171—173
Influence of Climate, of Elevation, of Malaria, of Soil on Stature	...	...	173—174
Influence of Food	do.	...	174—176
of Mining do.	...	...	176
of differences of social position	do.	...	177—178
of birth and life in cities	do.	...	179—180
Evidence and causes of physical degeneration	...	...	180—184
Conclusion	...	...	184—185
Appendix on the Stature and Bulk of the Irish...	...	...	186—191

ON THE STATURE AND BULK OF MAN IN THE BRITISH ISLES.

PREFATORY CHAPTER.

THE plan of the present work originated in the following way : —In the year 1860, Dr. Barnard Davis, in view of the chapter in the “*Crania Britannica*,” entitled *Ethnological Relations of the present population*, conceived the idea of printing and circulating certain queries as to the physical characteristics of the natives of various portions of Britain. He did me the honour to submit his scheme for my consideration and approval ; and we subsequently circulated a good many copies of his “ethnological queries,” and obtained thereby a good deal of valuable material, an abstract of which may be found in Decade vi of the great work above-mentioned. I had, however, been struck by the unlooked for, and, as I thought, interesting and anthropologically important character of the information bearing on the stature of man, which had thus been obtained ; and I resolved to carry on the inquiry into that branch of the subject on a more extended scale, by the circulation of blank tables, to be filled up with particulars respecting a number of specified individuals.

The formula I adopted was as follows :—Surname, age, birth-place, occupation, height (in feet, inches, and quarters),

weight (stones and lbs.), colour of eyes (blue, grey, dark grey, or brown), colour of hair (red, fair, brown, dark, or black). *Directions*: Only men between 23 and 50 to be measured; they are to be taken indiscriminately as to size, big and little as they occur, so as to yield an average sample of the population, or of the class observed; mention whether measured in shoes or not.

To these directions I frequently added supplementary ones, suggested by the special character of the localities to which my schedules were sent; and I soon found that little or no information could be obtained without a great deal of correspondence. In some cases I succeeded by consenting to dispense with the filling in of all the columns. Sometimes the weight could not be obtained; sometimes the observer mistrusted his power of discrimination of colour, and objected to fill in the eyes and hair; more frequently the persons examined objected to their names being taken, even though assured that they would not be published. My chief object in asking for the surnames was that of throwing thereby some light on the extent of the migrations that have taken place in Britain since the use of surnames became general, such as the intrusion of Irishmen into the great centres of population; of Highlanders into Glasgow, Edinburgh, and other parts of the Scottish Lowlands; of Lowlanders into the pastoral Highlands; of Scotchmen generally into England, and especially into the Northumbrian region; of Welshmen into the West-Midlands, Lancashire, London, and Bristol; and, lastly, of Cornishmen into Devon and other parts of the West of England.

The returns, however, came in much more slowly than I had anticipated; it became clear that I had underrated the difficulties in the way; and I applied for assistance in circulating the schedules to Dr. Hunt and Mr. Carter Blake, then President and Secretary of the Anthropological Society of London.

Both these gentlemen sympathised with my objects and entered into my views. Copies of my schedule were distributed,

through their aid, to all the Fellows of the Society, at that time already above five hundred ; but, except returns from Sir Duncan Gibb, Bart., and from one anonymous correspondent from Ireland, their appeal bore no immediate fruit.* I therefore fell back on my own resources, carried out an extensive series of measurements, in the workshops of Bristol, and on all the men, available for my purpose, whom I encountered in the course of my professional work at the Bristol Infirmary ; and applied to a number of my medical and other friends in various parts of England and Scotland, and to a few other medical men, personally unknown to me, but distinguished by their zeal for natural history or science in general. For the exertions which many of these gentlemen made to assist me in my object, I cannot sufficiently thank them : their names will appear in connexion with their respective contributions ; but I ought here, perhaps, to mention several of them who, though they did not all personally contribute to the work, were nevertheless of the greatest possible service to me, by procuring from friends of their own unconnected with myself, some of the most valuable of the reports. Among these were Dr. Barnard Davis, F.R.S., Dr. Arthur Mitchell, the Rev. Canon Greenwell, the Rev. J. Percival, of Clifton College, Mr. Philip J. Worsley and Mr. John Bowman, both of Clifton, Dr. Johnson, of Shrewsbury, and Professors Cowan and Gairdner of Glasgow, and Struthers of Aberdeen. I subsequently carried the inquiry into two other regions, and with the help of Dr. Maudsley and others, procured details of the stature, bulk, &c., of the inmates in most of our county lunatic asylums. The official recruiting statistics appearing to offer another and a very important field, I made application through the War Office, to the proper authorities for permission to obtain and make use of them. In this I was successful, owing to the friendly interest of a number of gentlemen, among whom I ought to particularise the late Director-General of the Medical Department, Sir James Gibson, Deputy Inspector General T. Graham Balfour, M.D., (who has himself, among his multifarious contributions to statistics, done much on this subject) ;

* Ultimately, however, I was assisted by several of the Fellows.

Dr. Kirk, H. M. Vice-Consul at Zanzibar, and Mr. Norman Lockyer, F.R.S. In availing myself of the opportunities thus courteously granted me, I was greatly assisted by Inspector-General S. M. Hadaway, Deputy-Inspectors-General S. Currie, M.D., J. D. McIlree, H. C. Reade, and W. L. Langley, M.D., and Staff-Surgeons-Major B. W. Marlow, M.D., and P. Sinclair Laing ; and in the classification of the facts obtained I had the valuable assistance of Dr. David Christison. These facts embraced the necessary particulars respecting every recruit or re-enlisted man of twenty-three years and upwards, who was inspected in the United Kingdom during a period of two years, commencing in March 1864, when the standard was reduced to five feet five inches. While the standard was kept at five feet six, it approached too nearly to the average height of the natives of most parts of the British Isles, to afford data of any value for such an investigation as mine ; and for all periods prior to March 1864, either the standard was too high or the information in the recruiting books on other points was defective. With respect to limits of age, the observations of Quetelet, Danson, and Aitken, seem to me to indicate the age of twenty-three as that when the average man has attained his full stature and bulk, if not absolutely and always, yet nearly enough for purposes of practical investigation. In fixing on fifty as the upper limit of ages admitted, I had little to guide me except Dr. Boyd's paper in the *Philos. Trans.* for 1861, and the current opinion, which, basing itself perhaps on the old doctrine of climacterics, regards forty-nine or fifty as the point when the decline of life fairly begins. Hospital practice of course makes one comparatively too familiar with constitutional weakness and early decrepitude ; and my impression that the inhabitants of towns on the average begin to decline rather before than after fifty may therefore be erroneous. Dr. Boyd's figures would lead to the inference that in the class of people met with in the Marylebone Workhouse Infirmary there is a considerable difference in stature between the men of forty to fifty and those of fifty to sixty, while in the Somerset Lunatic Asylum no such decline is observed. Hard work, exposure, and perhaps peculiarities in the food, bring on the *appearance*

of age much earlier in some agricultural districts than in others ; and this I have particularly observed in Berwickshire as compared with some parts of England, though the former produces a breed of men unsurpassed in size and vigour.

The data procured from the recruiting books, and those from the lunatic asylums and prisons, have been of great value to me, as will be seen in the commentary subjoined to my tables ; but they have but a remote bearing on the question, what is the average stature of man in the several divisions of the United Kingdom. For this part of the subject I have had to rely almost entirely on the schedules filled up from among the civil, sane, and free population ; and I must confess to a feeling of satisfaction not unmixed with wonder, when I contemplate the extent of the material thus brought together. I have been asked more than once, by those who took an interest in the progress of the work, why I did not endeavour to further utilise my own labours and those of my correspondents, by collecting at the same time information on some other points of importance, such as the size of the head and the girth of the chest. I had two reasons for not attempting this. In the first place, no two men exactly agree in their measurement of the same head or chest. The directions of the recruiting department on the latter point appear to be as precise as possible ; but the internal evidence of the official books has convinced me that two inspectors, equally experienced and skilful, may differ greatly in the results they obtain in following out those directions. But my principal reason for not attempting anything of the kind was, that the difficulties in the way of my correspondents, and the trouble entailed upon them, were already very great, and that by asking too much I should in many instances have deservedly failed to obtain the favour willingly granted to a more moderate request. Most of my allies were country doctors, members of a class which, though much over-worked, is perhaps above all others ready to respond to claims made on it in the name of either science or philanthropy. These impediments were great and very various in kind and degree. The want of ready access to a weighing machine was one-frequently alleged. It was perhaps a mistake to insist

upon the weight being taken, though some interesting facts resulted from that part of the inquiry; for the height alone could have been much more easily gotten. But much more important difficulties arose from the character of the people to be examined, and some of these are perhaps worthy to be recorded, and may even have some anthropological interest.

A very large proportion of my best and most elaborate contributions came from Scotland. There, as elsewhere, I distributed a certain number of schedules without receiving any answer from the persons applied to; but those who did send answers almost all promised assistance, and with very few exceptions I believe they all carried out the engagement. The lower classes in Scotland are, as a rule, both intelligent and obliging; the men examined generally took interest in the matter, and in only two districts did I hear of any difficulty being raised by them. The fishermen, however, of some villages on the east coast, proved extremely stubborn and suspicious; "nothing less than an act of parliament would do it," remarked one of my allies, Dr. Howden of Montrose. "Waste of workmen's time" was alleged as an objection by a Glasgow manufacturer.

In Ireland the unsettled political condition of the country proved an insuperable obstacle to those who made attempts on my behalf. Some Tipperary "boys" fairly took to their heels when it was proposed to measure them.

In England generally a good many of those who at first promised assistance subsequently failed to carry out their engagements, finding the task more difficult than they had expected. These cases occurred chiefly, I think, in the east of England. In the same region, and particularly in the anthropologically important county of Kent, I found unusual difficulty in getting people to take enough interest in the subject, or to comprehend its bearings sufficiently, to be induced to make the attempt; the same was the case in Herefordshire and some other counties, where a wearisome series of efforts on my part failed to elicit a response. In the south-east of England some of those who did make the attempt reported that the "shyness" of the peasantry was insuperable, or that they obstinately refused

without reason assigned, but apparently from some superstitious motive. In the south-western counties, there was generally little difficulty :* the lower classes there are, as a rule, courteous and obliging, though, except in Cornwall, perhaps not remarkably intelligent. In Wales there was unusual difficulty in disabusing the natives of the idea that the inquiry had been set on foot by "Government," and therefore *must* mean mischief ; that the men measured would be carried off for recruits or exported to America, &c. ; when this difficulty could be got over there was no further objection. It was a long time before I could procure much material from Yorkshire, though I did ultimately receive thence a large number of very valuable contributions. In certain parts of the county my correspondents blamed the rugged rudeness of the people, miscalled by themselves independence, as the cause of failure. In Lancashire the jealousy or indifference of employers, and the rudeness or ignorance of workmen, have made my endeavours comparatively fruitless. But the bucolic and Boeotian county of Hereford is the only one from which I have failed to obtain any return whatever.

Roughly speaking, I should say that failures, where they occurred, were attributable, in Scotland, either to greed of time or to superstition ; in Ireland, to carelessness or to political feeling ; in Wales, to suspiciousness, and in England to stupidity.

By all these difficulties I have been prevented from fully carrying out one of my original ideas, which was to get samples of similar classes, and especially the peasantry, from each of a number of districts strongly marked in race character. And some interesting districts, such as Orkney, East Caithness, Lochaber, Holderness, Thanet, Lower Pembrokeshire, are either insufficiently or not at all represented, from no fault of my own. On the other hand, I have returns from the most remote of the islands, as the Shetlands, the Hebrides, St. Kilda, and the Scillys ; from the villages most elevated above

* According to my friend Mr. D. Maekintosh, F.G.S., the cultivators of natural science are far more numerous in the west than in the east of England.

the sea, viz. Wanlockhead, Allenheads, and Braemar; from the lowest districts, as Romney Marsh and the Fens; and from districts more or less peculiar as to race, as Flegg and Spital-fields; or as to mode of life, as New Forest, Sheffield, and the fishing villages of the east coast. So much for what may be called the extrinsic difficulties of the investigation; the consideration of the intrinsic ones may be deferred till we have before us the collected material, or, at all events, until I have stated the objects of the inquiry.

These were, in the first place, to furnish some reliable features towards the composition of a picture of the physique of the British population in its several races and districts, before those races might have been, through the greatly increased facilities for interrogation and cross-breeding, so amalgamated as to have lost all sharpness of distinction. It is probable that more has been done in England, since the beginning of this century, or even during the present generation, towards breaking down these distinctions in a general fusion of race elements, than had been done during the preceding six centuries. And the process goes on year after year in an accelerated ratio, as the relics of the laws of settlement are being swept away, and as travelling grows easier and cheaper, and education more general. I wished to furnish standards of comparison for future observers, who might interest themselves in the physical status of the British people, or of portions of it, whether from scientific or philanthropic motives.

I wished also to do for Britain what a distinguished band of anthropologists, of whom Broca is the chief, had been doing for France, viz. to gather evidence as to the respective or relative potency, in influencing human stature, of race and of what the French call *media*; as to the degree, that is, in which hereditary influence can overcome, or is overcome or modified by, such agencies as climate, soil, occupation, and food. Here-

under arise a number of branches of inquiry, interesting alike to the naturalist, to the physician, and to the philanthrope. What is the kind and amount of physical degeneration, if any, which is taking place in the population of our rapidly-growing cities ? Is it accompanied with any notable alterations in size, form, or colour ? Can we at all separate the effects of the numerous agencies which most people believe to be active in this process, such as foul air, confined posture, working of children, syphilis, alcohol and tobacco ? How far do such causes act directly ? or how far through natural selection ?

The method of investigation which I have adopted cannot be expected to furnish solutions of all these questions, but it may probably advance us a stage further on the road toward such solutions.

I had yet another subsidiary motive. It was the wish to be able to form an estimate of the proportion of serviceable young men shut out from the army by the regulations as to stature. The subject is of national importance, though it was not, I believe, adverted to in the Report of the Parliamentary Committee on Recruiting.

To return to what I have called the intrinsic difficulties of the investigation. The most important one is that of getting, and being sure that one has gotten, a really fair and average sample of the population, or of a particular class. I have generally left to my correspondents the choice of means to this end, or at most have suggested two or three courses for choice. Most of them have aimed at a sample of the general population, and have picked up men for their purpose just as chance and opportunity favoured them. This plan might be supposed likely to yield rather too high averages, dwarfish men being more likely to shun the measurer than tall ones ; but I believe this objection is not of very great moment. I was myself disposed to think some of the returns from Scotland, made in this

fashion, erring by excess ; but the facts that the highest return in Scotland, or in all Britain, (No. 54) is unexceptionably fair ; that in the two next (57 and 50) special pains were taken to avoid this fault ; and that in another (52) in which the results appear rather high, all possibility of error was guarded against by the inclusion of the entire population, have inclined me to alter my first impression. The highest among the English returns, *e.g.*, those from Richmond, Bentham, Flegg, and Scilly, were all made by observers of the highest class, who were confident of their accuracy.

To get a true average of the general population a larger number is required than of a particular class ; as it is certain than in some districts the upper and middle ranks exceed the lower rank in stature. I say in *some* districts only ; because in those parts where the peasantry are of a tall race, the gentry being somewhat mixed in breed, and nearer to the general standard of their class, have not always the same superiority.

In comparing the statements of different observers some caution must be exercised. I have already remarked on the discrepancy of the results, as to girth of chest, obtained by two skilled observers from two sets of men ; who, alike in stature, weight, nationality and occupation, *must* have had nearly the same average chest-girth. This difficulty does not obtain to the same extent in regard to stature and weight, but one man is content with less exactitude in these matters than another. In a few of my returns the particulars are given in inches and stones only, the want of good weighing-machines having probably prevented a closer approximation. But the greatest discrepancies occur in the ideas of different observers respecting colour, and especially colour of hair. There is no standard of reference as to the nomenclature of hair-colour, except that of M. Broca ; and it would have been both expen-

sive and otherwise inexpedient to have distributed his chromatic scale to all my contributors. The internal evidence of the reports, together with my own observations in this department, which have extended to most parts of the British Islands, have enabled me, however, to make more use of the evidence as to colour, than would at first sight have seemed practicable.

TABLES FOR SCOTLAND.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Naked height.	Naked weight.
				With shoes.	Without shoes.		
1.	Island of Unst, Shetland	Mixed Population, but chiefly fishermen	31	5 8·08		1·7226	66·61
2.	Reawick and Lumnasting, Shetland	General Population	21	5 8·54		1·7292	67·85

1. I owe this interesting return to Thos. Edmondston, Esq., of Buness, F.A.S.L., etc. The measurements and weights are taken with great exactness, and the specimen is evidently a perfectly fair one. The men were mostly measured in "rivlins," *i.e.*, sandals, or moccassins of hide. I have allowed .3 inch for them, and 10 lbs. for clothing. In 36 men the colour of the eyes and hair were as follows:—

	Hair.	Eyes.	Fair.	Brown.	Dark.	Black.	Total.
Hair.....	2	7	14				23
Eyes...Blue		1		4			5
Grey				3	1		8
,,					4		
Hazel or Brown						4	
Total	2	8	21	1	4		36

The fair men are conspicuously tall, and the black-haired men very small. Average circumference of the head, 22.5 inches. The race in Unst is nearly pure, the frequently Scotch surnames having been mostly borrowed, according to Mr. Edmondston.

2. These tables were compiled by the late lamented Dr. Spence, of Lerwick, for Dr. Barnard Davis. I have struck out a large number of men as over or under age. I believe these men were measured in rivlins, for the most part, and I have allowed .5 inch and 10 lbs. for shoes and clothing. In 50 men, the eyes and hair were as follows:—

	Yellow.	Fair.	Brown.	Dark.	Black.	Total.
Blue	9	4	17	4	4	38
Hazel, Brown, or Black		2	5	1	4	12
Total	9	6	22	5	8	50

The prevailing colour of the hair in Shetland is a light yellowish brown, but coal-black does occur, though some of those cases set down above as black were probably dark brown. So far as I have observed, the black-haired Shetlanders are of low stature, with features approaching the Finnish type, and a melancholic temperament. The average circumference of the head in fifty men was 22.5 inches.

No.	Place or district of birth.	Class of persons observed.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
			With shoes. ft. in.	Without shoes. ft. in.			
3.	Uig, Lewis	Peasants of the clan Macaulay	12 5 7			1·6837	
4.	Scarpa, Harris	Peasants and fishermen, or both	20 5 8			1·7091	
5.	St. Kilda	Fowlers and shepherds	? 5 7			1·6837	
6.	North Uist	Farmers, etc.	6 5 8·46		168·0	1·7145	70·75
7.	South Uist (1 from Benbecula)	Farmers and peasants chiefly	23 5 9·28		164·9	1·7353	69·35
8.	Barra	Mostly fishermen	17 5 9·63		175·4	1·7442	74·11
9.	Total of Uist Group		46 5 9·34		169·1	1·7368	71·25

3. I have extracted these measurements from the *Cranius Britannicus*, cap. vii, pp. 206-207, where
 4. } may be found a great deal of interesting information as to the physical and moral characteristics of the
 5. } Hebrideans, collected for Dr. Barnard Davis by Capt. Thomas, R.N., and Dr. Mitchell. I believe the men
 were measured in shoes, for which I have allowed $\frac{3}{4}$ inch. The stature is said to be taller and the frame
 bulkier in the district of Ness, where a light-haired Norse type prevails, than in Harris and the remainder
 of Lewis. In some parts (Barvas) Capt. Thomas's informants estimated the stature as low as 5 feet 6 inches.

6. These items (6 to 9) are compiled from two schedules, the larger of which I owe to Colin MacRury,
 7. Esq., physician in Barra, and a native of South Uist; the smaller, including most of the South Uist
 men, to a correspondent of R. Gray, Esq., Glasgow. Both returns are carefully taken, and have all the
 8. appearance of being fair samples. I have allowed 1 inch for shoes, and 12 lbs. for clothes, by Dr.
 9. MacRury's directions. The two observers differ a little in their nomenclature of colour; in the following
 table I have reconciled the difference as well as I can:—

	Hair	Red.	Fair or Brown.	Brown or Dark Brown.	Dark or Black.	Total.
Eyes, Blue or Grey	2	15		2	4	23
,, Dark Grey	2			7	3	12
,, Brown or Dark	3			4	3	10
Total	2			13	10	45
				20		

The smallest and some of the largest men are fair; but on the whole the brown men are the tallest, and the black men shortest. According to Dr. MacRury's system of colours, the Barra men at least must be a decidedly fair race in the main. What are the proportions respectively of the aboriginal, Norse, and later Gaelic elements, there are no historical data to show. Attempts have been made (*Cran. Brit.*) to estimate them from the physical aspect. That the Norse element must be strong is proved by the fact that "almost every islet and even every farmsteading bears a Norse name." The list of surnames in my schedules yields hardly any indications of recent immigration from Ireland, but bears out Dr. MacRury's

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight.	Naked height.	Naked weight.
				With shoes.	Without shoes.			
				ft. in.	ft. in.	lbs.	meters.	kilos.
10.	Skye	Miscellaneous, from several reports	8	5 9·68		157·7	1·7480	66·67
11.	Lochbuy, Mull	Farmers, shepherds, fishermen, etc., on the estate of Mac Laine, of Lochbuy; all of genuine Mull descent	30	5 9·55		184·0	1·7422	78·01
12.	Colonsay	Mixed	20	5 8·9		174	1·7282	73·93

statement that there is an admixture of mainland blood.* Red hair seems to be rare in the Hebrides, and the only two examples in these schedules bear Argyleshire names. The food of the Barra men consists chiefly of potatoes, fish, and milk; barley-, oat-, and maize-meal, and flour, are less used, and meat rarely.

10. Though I insert this, I believe the average height indicated is far too large; ·9 inch and 10·7 lbs. allowed. Average of eight reapers from Skye, 5 feet, 7 inches; and 151 lbs. (Johnston, *Phys. Atl.*)

11. Contributed by Archibald MacPhail, Esq., Scalasdale, Lochbuy. The height is taken to half an inch, the weight to a pound. The great weight is not owing to the inclusion of corpulent men, but to the absence of slender ones. Probably the Lochbuy men are above the average stature of the island. The ancient family of MacLaine has for centuries been remarkable for loftiness of stature, that of the son of the present representative (included in the return) being no less than 6 ft. 5 $\frac{3}{4}$ in. I allow 1 inch and 12 lbs. for shoes and clothing. Probably the heads are large, Mr. MacPhail's measurements averaging 23 $\frac{1}{2}$ inches.

Blue Eyes, with some light grey	17	Red	1	Fair	7	Brown	6	Black (very dark?)	2	Coal black	1
Dark Grey.....	3		1†								
Brown or Black	10										
Total	30		2	7		12					
											4
											5

The men with blue eyes and black hair are the biggest; the red-haired men, and those with black eyes and hair, are small. The race in Mull, as in the Inner Hebrides generally, is supposed to be Scoto-Keltic, more or less crossed with Norse blood.

12. I owe this return, as well as the two next following, to Mr. Hector MacLean, F.A.S.L., Ballygrant, Islay. His report contains a number of interesting particulars; ·9 inch and 11 lbs. allowed. Of 27, the eyes were blue in 6; blue-grey, 2; light grey, 3; grey, 4; green-grey, 7; dark grey, 1; dark yellow-grey, 1; hazel, 2; dark brown, 1. Of 28, the hair was light red in 5; bright red, 1; flaxen, 2; flaxen-yellow, 1;

* Mr. Campbell (the author of the *Tales and Traditions of the Western Islands*) confirms this in a letter to me.

† Freckle-faced Highland type, which my friend Dr. Mitchell, I believe, calls Caledonian.

No	Place or district of birth.	Class of persons observed.	Average height.			Naked height.	Naked weight.
			With shoes.	Without shoes.	ft. in.		
	No. of persons.	N.				lbs.	meters.
13.	Islay (Parish of Kilmenny)	Mixed rural population	48	5 8·37		171	72·57
14.	Islay (Lagavulin, Parish of Kildalton)	Do., do., including also the staff of a distillery	18	5 8·21		167·5	70·98
15.	Canisbay (Caithness) and the islands in the Pentland Firth	Mixed, but mostly fishermen and pilots	18	5 8·66		168·8	71·50
16.	Parishes of Durnet, Olrig, Bower, Watten, Thurso, and Wick (Caithness)	Farm labourers and quarrymen	10	5 8·70		166·7	70·84

SCOTLAND.

TO ILLUSTRATE
TABLES OF STRATIFICATION, &c.



CAITHNESS
(HOUSES)
CAITHNESS
(BARKIC)

SUTHERLAND

59

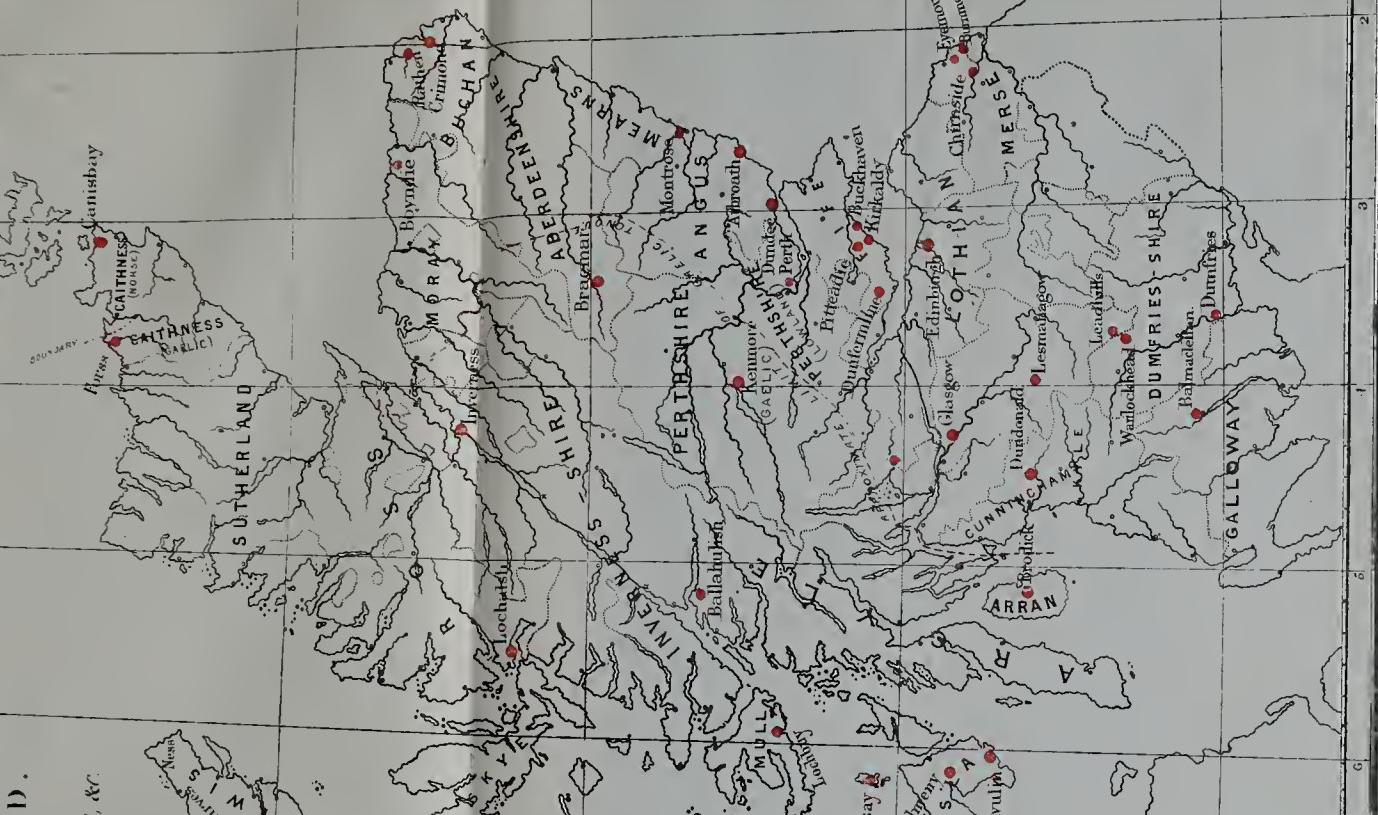
60

57

56

56

2



REMARKS.

No. yellow-brown, 4 ; brown, 2 ; dark brown, 7 ; brown-black, 6. (See *Cran. Brit.*, cap. vii, p. 209.) M.R. MacLean believes the Colonsay-men to be to a great extent of Norse blood, more so than those of Islay, and much more than those of most of the other Hebrides.

These two returns also are by Mr. Hector MacLean, for my introduction to whom I was indebted to Mr. Campbell, of Islay. (See *Cran. Brit.*, p. 209; and Mr. MacLean's own paper "On the Comparative Anthropology of Scotland," *Anthr. Rev.* for 1866, p. 209.) I allow .9 inch and 11 lbs. for shoes and clothing. Both heights and weights are more exact in the Lagavulin return.

	COLOURS IN 88.			
	Fair	Brown	Dark Brown	Black
Hair	Red	16	16	6
Eyes, Blue or Grey	5	1	17	60
Dark Grey or Neutral ...	1	3	7	19
Hazel or Brown		3	3	9
Total.....	6	17	22	88
			27	16

Auburn is here included under red, yellow under fair, chestnut under brown, and brown-black under black. The black-haired men are considerably shorter than the rest ; on the average of MacLean's measurements, their heads are narrower, and the circumference of their pelvis, both absolutely and in relation to that of their shoulders, is smaller.

Mr. Kennedy, of Canisbay, procured this return, at the instance of the Earl of Caithness. Both heights and weights, especially the latter, are but approximate ; and as I cannot ascertain whether the men had shoes on or otherwise, I have assumed that they had. I regret that I have no further information than is yielded by this and the next return respecting the Norse district in Caithness, which is ethnographically one of the most interesting portions of Scotland, and breeds a remarkably fine race of men.

This return is a portion of Mr. Edgar's.

15.

2

16.

No.	Place or district of birth.	Class of persons observed.	No. of persons. No. of M.	Average height.		Average weight. lbs. meters.	Naked height. kilos. meters.	Naked weight. 70·71
				With shoes. ft. in.	Without shoes. ft. in.			
17.	Gaelic parishes in Caithness (Reay, Halkirk, and Latheron)	Quarrymen, stone sawyers, and labourers employed about the pavement works of the late Sir G. Sinclair, of Ullster, at Forss, near Thurso	24	5 8·99		166·4	1·7282	
18.	Sutherland county	Various: some quarrymen	7	5 9·64		166·4	1·7470	70·48
19.	Lochalsh, Wester Ross	Native population of a Highland district, chiefly fishermen, shepherds, etc., and all of local descent	21		5 7·92	173·3	1·7262	73·16
20.	Lochalsh	Ditto, persons who happened to call at a workshop near Dr. Duncan's house: all natives of local descent	20	5 9·50		168·0	1·7409	70·75
21.	Ross generally	Miscellaneous, from several reports: several lunatic attendants (rather a superior class in physique) included	18	5 9·59		166·1	1·7460	70·35
22.	Inverness town	Miscellaneous, being all the people who entered a shop in	15	5 7·78		153·8	1·7023	65·22

17. By Mr. James Edgar, manager at Forss, for Sir G. Sinclair, of Ulbster. Both measurements and weights are very minute and exact. I allow .95 inch and $10\frac{1}{2}$ lbs. for shoes and clothes, the latter by Mr. Edgar's direction.

	Red	Fair	Brown	Dark	Black
Colour of Hair in Norse Parishes	16	5	2	3	2
Gaelic Parishes	29	8	4	1	7
Total	45	12	9	3	12

Observe the greater frequency of fair hair, and rarity of black, in the Norse parishes; though the family names show that intermigration has been extensive.

18. Mostly from Mr. Edgar's report. .9 inch and 11 lbs.

This and the next report are by Dr. George Duncan, of Conchra, Lochalsh; they are a fair sample, and the weights, etc., minutely correct. The Lochalsh Highlanders, among whom the MacRaes predominate, are generally reputed a stalwart race. Their food is oatmeal, milk, fish, and potatoes. Those in the second report were measured in their shoes. Dr. Duncan found the weight of clothing 12 lbs., and the height of heels $1\frac{1}{2}$ inch; but probably an allowance of 1 inch would be sufficient. Of 46, the hair was red in 2; fair, 7; light brown, 4; brown, 11; dark brown, 6; black, 16. As a rule, the fair and brown-haired men surpassed the black in stature and weight, but were again exceeded by the dark brown.

19. .9 inch and 11 lbs. allowed for shoes and clothing.

20.

21. This is a portion of a return (containing 50 names) procured for me, in the manner stated, by Mr. Allan Macdonald, Inverness, at the instance of Dr. T. Aitken. .8 inch and 10 lbs. allowed. There is some admixture of foreign (Lowland) blood in the town, but not very much.

22. C

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
23.	Inverness county	Inverness during a certain period	10	5 9·60		182	1·7434	77·10
Do. do.								
24.	Inverness county	Attendants in a lunatic asylum	15	5 8·33	169·6	1·7366	71·66	
25.	Castleton of Braemar	General population of a mainly pastoral district: all natives of the parish	27	5 9·36		161·6	1·7373	67·58
26.	Kenmore, Perthshire Highlands	Rural population, all classes	33	5 9·27	175·2	1·7046	73·93	

23

From the same return, 1 inch and 12 lbs. allowed. The superiority of the countrymen in stature and weight is striking, though Inverness is but a small town.

24. Dr. T. Aitken, F.A.S.L., Member of the Anthropological Society of Paris, Superintendent of the Inverness Asylum ; 11·6 lbs. for clothes. In these returns from Inverness-shire, the fair and brown-haired surpass the dark and black-haired in stature, but fall below them in weight. And among the lunatics from this country (see Dr. Aitken's report), the dark and black men are again the shorter. There is a notable prevalence of grey eyes in all these returns : 11 blue, 17 grey, 3 dark grey, 9 brown or dark eyes. Hair : 14 fair, 12 brown, 11 dark brown, 5 black. The fair must include some reds.

25. I owe this return to Dr. W. Marshall, of Braemar, through Sir W. Jenner. From the manner in which it was compiled, it must be a perfectly fair sample, and the measurements and weights are very exact. I allow 1 inch and 12·6 lbs. for shoes and clothes.

Hair	Red	Very Fair	Fair	Brown	Black	Total
Eyes, Blue	..... 1		6	1	1	..... 9
Grey	.....	1	3	3	3	..... 7
Brown, etc.	.....	3	3	4	4	..... 10
Total	..... 4	1	12	1	8	..... 26

The black-haired men are tallest and largest, especially those with light eyes. For "fair", I should probably have said "brown". The proportion of brown eyes is large for a Gaelic community; compare, in this and other points, the return (No. 26) from Kenmore. A number of Lowland names, borne mostly by the fairer men, testify admixture of blood. Oatmeal is the chief food, but animal food is pretty largely used. The district is one of the most elevated in the kingdom, the village being about 1,100 feet above the sea.

26. Mr. W. Armstrong, Kenmore, who favoured me with this return, took first a number of what he considered average men, and then, at my request, added a few extreme specimens. Omitting one small-framed

No.	Place or district of birth.	Class of persons observed.	No. of persons	Average height.			Naked height.	Naked weight.
				With shoes.	Without shoes.	Average weight.		
				ft. in.	ft. in.	lbs.	meters.	kilos.
27.	Ballachulish, Argyle	Mostly slate quarriers	24	5 8·86			1·62·6	1·7246 68·73
28.	Argyleshire	Miscellaneous, from several reports	14	5 8·10			1·69·9	1·7104 72·11
29.	Arran	Mixed : chiefly fishers, farmers, and labourers	23	5 9·40			1·67·2	1·738·4 70·39

family, the men range from 5 ft. 6 ins. to 6 ft. 3 ins.; the sample is, therefore, probably not far from a fair one. I have myself remarked the “magni artus” and “rutilæ comeæ” of the men of this district, who probably represent the Caledonii of Tacitus. 12·2 lbs. allowed for clothes.

	Red	Fair	Brown or Dark	Black	Total
Eyes, Blue or Grey	9	6	2	6	.....21
Dark Grey				2	.....2
Hazel, Brown.....	2	2	3	3	.....10
Total	11	8	5	9	.....33

I think the “fair” here corresponds nearly to what I call medium brown (French *châtain*). Under red I have put “auburn” and “sandy.” Those with dark hair, and especially those with grey eyes and black hair, are the tallest men; the red are bulkiest; the fair generally smaller.

27. By Donald MacRaild, Esq., M.R.C.S., Ballachulish, through Professor Cowan. Heights pretty exact; weights in many cases rough or conjectural. I have allowed 1 inch and 11 lbs. for shoes and clothing. The names indicate no admixture of Lowland blood, though the colour of the eyes is suspicious; but hazel eyes are not unfrequent in the sandy-haired freckle-faced Highland type, which my friend Dr. Mitchell, I believe, calls Caledonian. In 23

	Red	Fair	Brown	Dark Brown	Black
Hair	3	2	2	4	2
Eyes, Blue or Light-Grey...13.....					
Hazel, Light-Brown.....2.....		2			2
Brown.....8.....		1		5	

28. ·8 inch and 10·9 lbs. allowed for shoes and clothes. Two very heavy men exalt the weight unduly.

29. Mr. W. Halliday, Brodick, Arran, who thinks the sample fair. The heights vary from 4 ft. 10 ins. up to 6 ft. 5 ins. The island is still Gaeic, and I believe there has not been much immigration of late years,

No.	Place or district of birth.	Class of persons observed.	No. of persons. N.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
30.	Boyndie, Banffshire	8 fishermen, and 9 farmers and other landsmen	17	5 8'76		169.9	1.7257	71.21
31.	Crimond, Buchan, Aberdeenshire	Rural population, all classes, natives of Buchan	27	5 9'03		164.6	1.7315	69.39
32.	Rathen, Buchan, Aberdeenshire	Fishermen	19	5 7'31		150.6	1.6901	63.50
33.	Aberdeenshire in general	Miscellaneous, from other reports	18	5 8'83		169.6	1.7282	71.93
34.	Counties of Angus and Kincardine	Mostly attendants, artisans, etc., employed at Montrose Lunatic Asylum	22	5 6'44		158.8	1.6886	67.49

but the names are in great part Lowland. I have allowed 1 inch and 12 lbs. for shoes and clothes. The eyes are mostly grey; the hair in 1 red, 7 fair, 3 brown, 3 dark, and 9 black. "Some of these may not be coal-black," says Mr. Halliday,

30. This return was sent to Dr. Barnard Davis by Mr. Milne. I have allowed .86 inch and 12.9 lbs. for clothes and shoes. The fishermen are, on the average, shorter and lighter than the landsmen, and their heads are rather smaller; the average circumference of 11 heads is 22.35 only.

31. From Dr. W. Bruce, of Crimond. .9 inch and 11.6 lbs. allowed. This has every appearance of being a fair sample of the population of Buchan, which is a peculiar district, with a very pure race.

	Hair	Fair.	Brown.	Dark.	Black.	Total.
Eyes...Blue or Light Grey ...	10	2		5		17
,, Dark Grey.....	1		1		1	4
,, Brown	2		1	2	1	6
Total	13	4	8	2		27

The black-haired men are small.

32. Procured by Mr. MacConachie for Dr. William Bruce. The men were measured and weighed at a railway station, as they happened to pass. I allow .8 inch and 10.6 lbs. for shoes and clothing, as they do not seem to have been in their fishing clothes.

33. Several of the men were attendants in lunatic asylums: the sample may perhaps, therefore, be above the mark, though I doubt it. .83 inch and 11 lbs. allowed.

34. Mostly from Dr. J. Howden, Med. Supt. of the Montrose Royal Asylum. 10 lbs. allowed for clothing.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
35.	Arbroath	Upper or middle-class natives of town and neighbourhood	8	5 10·40	5	169·1	1·7689	71·70
36.	Arbroath	Artisans and labourers, natives of town and neighbourhood	16		7·36	157·0	1·7119	66·67
37.	Dundee and rest of Angus	Mixed classes, natives of all parts of the county, living in Dundee	15	5 9·73		171·8	1·7492	73·12
		Total	142	5 8·74		162·6	1·7256	69·84
38.	Aberdeenshire, Banffshire, Angus, and Mearns (excluding only Braemar)	Miscellaneous, from various reports, but includes a good many lunatic attendants	22	5 9·45		169·2	1·7434	71·66
39.	Perthshire in general							
40.	Pitteadie, near Kirkcaldy, Fife	Agricultural: ploughmen, farm-servants, and workmen employed on the land of G. Prentice, Esq., with a few members of his family	36	5 9·43		165·9	1·7391	69·80

35 }
36 } people.

From Dr. Andrew Key, of Arbroath, to whom I owe both these reports, and much information as to the people. '8 inch and 11 lbs. allowed in the first, and 10 lbs. in the second report.

37. From John Davidson, Esq., F.A.S.L., Dundee, whose return embraced a number of other men. '9 inch and 10·8 lbs. allowed.

38. '83 inch allowed for shoes and 10·8 lbs. for clothing. Probably a fair representation of the population of these counties, excluding the lowest stratum of that of the great towns, Aberdeen and Dundee.

39. Nearly half are from a report by Dr. C. Macintosh, M. Sup. of the Perth District Asylum, Murthly; I allow '85 inch and 11·2 lbs. The average is high, possibly too high, but tall stature is certainly the rule in Perthshire. Most of the people measured were born in Lowland parishes, but about half bore Highland names. The eyes are marked as blue and grey, *with only one exception*, and the hair as fair or brown, with only three.

Robert Prentice, Esq., of Strathore, favoured me with these observations, which ought to yield a fair sample of the agricultural population of Mid Fife. The weights are exact; the heights not generally carried beyond inches. I allow 1 inch for shoes and 12 lbs. for clothing.

	With Red Hair	Lt. Brown	Brown	Dk. Brown	Black
Blue Eyes	17	—	9	3	2
Grey "	10	—	2	—	4
Brown or Black	9	1	—	3	4
Total	36	1	—	11	10
				6	8



40.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
41.	Kirkcaldy and neighbourhood	A fair sample of the Artillery Volunteers, mostly artisans, and natives of Kirkcaldy and other towns in Fife	26	5 9·18		157·7	1·734	66·67
42.	Buckhaven, Fife	Fisher-folk	4	5 7·87		160·2	1·7028	67·58
43.	Dunfermline	Townsmen, natives of Dunfermline, of various occupations, taken indiscriminately	10	5 9·31		151·4	1·7409	63·95
44.	Fife in general	A mixture of all classes, born in Mid and West Fife, and	19	5 8·61		162·2	1·7231	68·71

Probably, according to my own scale, some of Mr. Prentice's light browns would be brown, and some of his blacks dark brown or brownish black. The 17 fair and brown-haired men average nearly 2 inches above the black and dark brown. The Fife people are very generally fair. In the east of the county, the physical and moral characteristics are supposed to point to a strong infusion of Scandinavian and Anglian blood, introduced by gradual and probably peaceful immigration ; this infusion visibly decreases as one proceeds westward.

41. By Dr. James Dewar, of Kirkcaldy. Heights and weights very exact. I allow .9 inch and 10.7 lbs. for shoes and clothes.

	With Red Hair	Lt. Brown	Brown	Dk. Brown	Black
Blue or Grey Eyes.....	11	4	3	2	1
Hazel Eyes.....	9	2	2	5	—
Brown or Black Eyes	6	—	1	2	2
Total.....	26	1	7	6	3

No particular relation between stature and complexion. Dr. Dewar's hazel eyes are probably what I should call hazel grey or neutral.

42. From another return by Dr. James Dewar, of Kirkcaldy. Buckhaven contains a very pure-blooded community of fishermen, some, at least, of whose ancestors are said to have been of Dutch or other Easterling extraction. Colour of hair, etc., see "Cont. to Sc. Ethnol.," by the author. I allow .87 inch and 11.2 lbs. for shoes and clothes.

43. Dr. Andrew Dewar, junr., of Dunfermline. I allow .81 inch and 10.4 lbs. for shoes and clothes. In 21 Fifemen, mostly from the western part of the country, including the foregoing. Dr. A. Dewar finds 4 with fair, 7 with brown, 8 with dark, and 2 with black hair.

44. Drs. James and Andrew Dewar, Sir Duncan Gibb, Bart., M.D., and other friends. .81 inch and 10.7 lbs. allowed for shoes and clothes. Hair in 1 Red ; 5 Fair ; 5 Brown ; 6 Dark ; 2 Black. No such difference between the fair and dark men as in the first Fife return.

No.	Place or district of birth.	Class of persons observed.	No. of per- sons. N.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
45.	Fife, average of returns	living mostly in towns (Kincaldy, Dunfermline, Inverness, London, and Bristol)	95	5 9·12		161·1	1·7338	68·08
46.	Glasgow and Edinburgh	Miscellaneous, from various returns : includes several of the upper class	26	5 7·98		149·5	1·7073	63·27
47.	Glasgow	Patients at Glasgow Infirmary, with slight ailments, mostly artisans	21	5 6·63		136·8	1·6774	58·05
48.	Other parts of Scotland	Patients as above	19	5 7·35		137·6	1·6852	58·41
49.	Dundonald, near Kilmarnock and neighbourhood	General population of a rural district, all born in Ayrshire	20	5 10·35		167·3	1·7625	70·43
50.	Dundonald, second table as finally revised	Ditto, ditto	48	5 10·53		169·0	1·7671	71·21

45. ·9 inch and 11 lbs. allowed.
46. Half of these were from reports by Dr. James D. Maclaren, Physician to the Glasgow Royal Infirmary.
·8 inch and 10 lbs. allowed.
47. Also by Dr. Maclaren. The men in this second return were suffering from slight ailments only, and not much reduced by disease; nevertheless, Dr. M. remarks, "they were hardly a fair sample of the artisan population, being mostly rather underfed and overdrunk. I allow ·63 inch and 8·8 lbs. for shoes and clothes."
48. Also by Dr. Maclaren, and of the same class. ·65 inch and 8·8 lbs. allowed for shoes and clothes. The difference in height is much in favour of these latter men, who were mostly country-born. There seems to have been a little difference in colour; also, of 27 town-born men, 12 only had dark hair; of 26 country-born men, 15; but of the former, 10, and of the latter, only 7, had dark eyes.*
49. This and the following return are by Dr. W. Alexander, of Dundonald. The first was taken haphazard, and Dr. Alexander thought it a fair sample, but at my request, in order to test its correctness, he was so obliging as to collect the materials of the second table, which contains all the males, of suitable age, within a certain radius of his dwelling.
50. This may be looked upon as a perfectly unexceptionable sample. The largest and one of the tallest men I excluded, one for excessive corpulence, the other from doubts about his nativity; otherwise the averages would have been 5 10·67 and 171·4. I also excluded some who had appeared in the first return, and who

* See my paper on "Permanence of Anthropological Type," in vol. II of these *Memoirs*.

No.	Place or district of birth.	Class of persons observed.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
			With shoes. ft. in.	Without shoes. ft. in.			
Ditto, ditto, before revision	Ditto, ditto	53	5 10·82		172·5	1·7744	72·79
	Natives of towns in Ayrshire, included above	13	5 9·19		173·1	1·7330	73·07
	Ditto of rural parishes	57	5 11·17		169·6	1·7833	71·48
51.	Lesmahagow, West Lan- arkshire	67	5 9·85		168·9	1·7498	70·75

General population of a mainly rural district, mostly farmers and labourers, with a few miners and shopkeepers

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would have raised the average to the figures last given in the margin. 1 inch and 12 lbs. allowed for shoes and clothes. Colours of eyes and hair in 70.

	Fair, etc.	Brown	Dark	Black	Total
Blue Eyes (many dark blue)...	13	10	15	2	40
Grey	—	2	3	—	5
Hazel or Brown	—	3	5	—	8
Black	—	—	7	10	17
Total	13	15	30	12	70

Those with blue eyes and fair hair, and those with grey eyes, are much taller, as a rule, than the rest, and somewhat heavier. The country-born men average 2 inches more than the town-born.

The district of Kyle, in the northern part of which Dundonald is situated, was conquered from the Strathclyde-Welshmen by the Northumbrian Angles, when in the plenitude of their power; and the eleventh and twelfth centuries, no doubt, brought in some Northumbrian and Anglo-Norman settlers, but the blood must be still mainly British. The same tall stature, with generally blue or grey eyes and dark hair, prevail here, as in the other ethnologically similar districts of Lesmahagow and Balmacellan.

By E. R. Alston, Esq., of Stockbriggs, near Lesmahagow, to whose assistance I also owe the returns from Arran, Kenmore, and South Uist. The sample is a perfectly fair one, the men having been taken just as they were met with. I allow 1 inch (by Mr. Alston's direction) for shoes, and 12·9 lbs. for clothes. The weight is, in most cases, only an approximation, but is, in his opinion, reliable; and comparison with the exact weights, gotten where it was practicable, seems to bear him out.

	Hair Red	Fair or Lt. Brown	Brown or Dk. Brown	Black	Total
Eyes Blue	2	13	9	6	30
Grey	—	6	8	7	21
," Brown, etc....	—	—	5	10	15
Total	2	19	23	23	66

No.	Place or district of birth.	Class of persons observed.	Average height.			Naked height. meters.	Naked weight. kilos.
			No. of persons.	With shoes.	Without shoes.		
			ft. in.	ft. in.	lbs.		
52.	Wanlockhead, Dumfries-shire, most elevated village in Great Britain	All the leadminers in the village, constituting, with two exceptions, the entire native population of fit age for the purpose	92	5 9·43	163·9	1·7391	68·94
53.	Leadhills	All leadminers	25	5 8·65	152	1·7193	63·72

The tallest men are those with grey eyes and dark brown hair, and the fair-haired men are decidedly short. Red hair is very rare in this district, and coal-black very common, though in childhood the hair is usually fair. Aquiline noses prevail. Morally, these people have, I believe, the shrewd, canny, "theological," character which belongs to the Western Lowlands of Scotland generally. The race is probably the old Cambro-British, but little crossed. See the returns from Wanlockhead and from Upper Galloway.

The 28 farmers and farmers' sons included in this return, averaged 5 10·21 and 171 lbs.

W. Watson, Esq., surgeon in Wanlockhead, compiled this report, which is, in some respects, the most interesting in my collection. The village of Wanlockhead is perched high among the misty Lowther Hills, near the head of the Clyde, and about 1,500 feet above the sea. Cherries ripen there in favourable seasons. I allow 1 inch and 11·9 lbs. for shoes and clothes.

Eyes: 2 Light Blue, 45 Blue, 2 Dark Blue, 25 Grey, 3 Dark Grey, 6 Brown, 6 Dark Brown, 3 Black.
Hair: 1 Light Red, 1 Red, 3 Dark Rd, 3 Yellow, 19 Light or Fair, 4 Light Brown, 9 Brown, 21 Dark Brown, 17 Dark, 2 Brown-Black, 12 Black.

This distribution of colours much resembles that found by Mr. Alston, at Lesmahagow, which is the same range of mountains, but lower, and further to the north-west. 38, or 41 per cent., exhibit the combination of blue or grey eyes with black or dark hair, which I have been accustomed to call Keltic. There is no very notable relation between the variations of height and of colour. The extremes of height (in shoes) are 5 feet 5 inches and 6 feet 1½ inch; six, at most, would have been below the military standard of 5 feet 5 inches.

Procured for me by Mr. Watson: the measurements, etc., taken by Mr. J. F. Neven,—1 inch and 11½ lbs. allowed for shoes and clothes. Leadhills is situated very near to Wanlockhead, at a somewhat lower elevation. This is only a sample of the mining population; but it seems to indicate a considerable inferiority of size in them, as compared with those of Wanlockhead. 18 of the 25 have blue or grey eyes,

No.	Place or district of birth.	Class of persons observed.	No. of persons	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
54.	Glenkens district, Upper Galloway	Pastoral and agricultural population of all grades, taken indiscriminately, as they were met with, only excluding those alien to the neighbourhood by birth or pedigree. 119 were measured, but 44 are excluded here, as over or under the prescribed age	75	5 10 4.6	173.58	179.07	72.38	38

4 dark grey or intermediate, and only 3 brown. There is still the same prevalence of the combination of blue or grey eyes with dark or black hair ; it occurs here in 8 persons.

These mountains are in the heart of the ancient Strathclyde-Welsh country, and doubtless the basis of the race is Cumbrian. The family names are mostly of the ordinary Lowland-Scotch type, with a few from the borders and a few from the Gallovidian clans.

These people are poor, but hardworking, frugal, and intelligent ; they have very little animal food, but have a good village library.

This very valuable return I owe to the Rev. Geo. Murray, of Balmacellan, Upper Galloway, through the introduction of Dr. Arthur Mitchell. The sample is a perfectly fair one, including a great part of the population of a thinly-peopled district. The measurements and weights were taken with great accuracy and minuteness. 14 lbs. allowed for clothing, by Mr. Murray's direction.

	With Red Hair	Fair	Brown	Dk. Brown	Black
Blue Eyes	36	2	15	6	2
Grey Eyes.....	19	1	6	3*	4
Brown, etc. Eyes	20	—	2	6	8
Total	75	3	23	15	20
					14

The averages of 28 farmers, and others of the upper and middle class, are 5 11·33 and 178·5 ; of 15 ploughmen, and the like, 5 10·4 and 177·4 ; of 12 shepherds, 5 9·65 and 165·9 ; of 10 smiths, masons, and joiners, 5 9·04 and 167·15 ; of 6 tailors and shoemakers, 5 10·1 and 162·3. The 14 black-haired men average 5 11·27 and 171·6 ; thus presenting the extreme of the local character of tall stature and comparatively moderate weight ; 20 dark-brown haired, 5 11·06 and 180·5 ; 15 brown-haired, 5 9·2 and 170·13 ; 23 fair-haired, 5 10·3 and 174·7. The dark-eyed men also exceed the blue and grey-eyed, generally speaking.

* One of these had dark grey eyes.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
55.	Dumfries	Attendants and other (sane) persons employed in and about two large lunatic asylums : all natives of the parish of Dumfries	22	5 7·20		161·1	1·6875	68·30
56.	Dumfriesshire	Miscellaneous, from different returns	15	5 9·22		163·5	1·7363	69·16
57.	Chirnside (Berwickshire) and neighbourhood	Farmers and peasants of local descent	25	5 11·28		199·68	1·7861	84·21

All the men are of Gallovidian extraction, more or less pure. The original population has been Strathclydian or Gallovidian ; but what immigration has occurred during the last few generations has probably been from the south-east. Celtic patronymics, such as McCulloch, abound : I should estimate them at a half. Mr. Murray says the population is well fed and well clothed ; the children live chiefly on oatmeal porridge and milk, and are not put early to hard work.

I owe this return to Dr. Gilchrist, Medical Superintendent of the Crichton Institution and the Southern Counties Asylum. Both weights and measures are exact to a small fraction. •8 inch and 10½ lbs. allowed.

•9 inch and 11lbs. allowed for clothes and shoes. In Dumfriesshire, or at least in its southern, eastern, and central districts, the local and family names, and the history, too, so far as known, as well as the physical type, indicate a very large infusion of Norse, and probably even of Anglian, blood. In Eskdale, I think, the Norse element preponderates.

By Dr. Charles Stuart, of Chirnside. I allow 1 inch and 14 lbs. for shoes and clothes. The measurements are not carried beyond inches and half-stones (7 lbs.). The colours are very different from those in the west of Scotland, under nearly the same parallel ; the eyes being marked as blue in 17, grey in 5, and dark in 3 ; the hair as fair (light shades of brown chiefly) in 19, and dark in only 6.

The tall stature and huge frames of the men of the Merse, strike every visitor to the Borders. As represented in this return, they surpass, in the latter respect, those of every other district in Britain. My friend, Dr. Stuart, told me, that in this and the next schedule he exhausted all the pure-blooded Borderers he could meet with in his district, and that he thought there were hardly any small men among the unmixed natives.

No.	Place or district of birth.	Class of persons observed.	Average height.		Average weight. Without shoes.	Naked height. meters.	Naked weight. kilos.
			No. of persons	With shoes. ft. in.	ft. in.		
58.	Chirnside, etc.	Rural population	15	5 9·45	?	1·7396	?
59.	Burmouth, fishing village, Berwickshire	All fishermen	8	5 9·0	168·6	1·7333	71·02
60.	Eyemouth, fishing town, Berwickshire	Mostly fishermen	9	5 7·73	176·3	1·7213	74·52
61.	The Eastern and Middle Marches, and Lothian	Miscellaneous, from several re- turns	16	5 9·40	165·9	1·7409	70·26
62.	Scotland in general	Miscellaneous, from several re- turns	28	5 9·60	160·7	1·7460	68·03

Ethnologically, the Merse (or low-country of Berwickshire) is a Teutonic district, differing little from East Northumberland.

58. Procured by Dr. Stuart, at my request, for Dr. Barnard Davis. I believe in this return Dr. S. was not so particular about the descent. Several persons appear in both returns; if these two returns are fused together, the average stature (with shoes) will be 5' 10·56. The climate of Berwickshire is harsh and inclement; the food of the present generation of labourers used to be chiefly oatmeal, pease-bannocks, and milk.
+3
59. This return again is by Dr. Charles Stuart. Some of the weights not quite exact, but the average, if these were excluded, would be higher. I allow ·8 for shoes and 12 lbs. for clothes. The Burnmouthers intermarry much among themselves; but they are a handsome, healthy, well-developed people; they vary much in complexion. See Dr. Arthur Mitchell on "Consanguinity" (*Edin. Med. Journal*, No. 118, p. 910) for an account of the Burnmouthers.

By Dr. Forsyth, of Eyemouth. Both measurements and weights are rather roundly taken. I believe the men were without shoes, but I allow 12 lbs. for clothes. The Eyemouth fishermen are a handsome and stalwart race, with, for the most part, light complexions and hair. I should think this sample rather inferior to the average in height, as Dr. Forsyth found the mean of 11 old men and lads to be as high as 5' 8·55. ·9 inch and 11 lbs. allowed. Average of 30 Eastlothian reapers, 5 feet 9 inches and 159 lbs. (Johnston's Physical Atlas).

60. ·9 inch and 10·7 lbs. allowed. Mostly from Galloway or the Midland counties, or born in some part of Scotland not specified; several lunatic attendants included, and several members of the upper and middle class.

TABLES FOR ENGLAND AND WALES.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Naked height.	Naked weight. kilos.
				With shoes.	Without shoes.		
63.	Berwick-upon-Tweed	Berwick Volunteer Riflemen. Occupations various, but mostly artizans	20	5 ft. 5 in.	5 ft. 8·25 in.	152·2 meters. 1·7345	64·67
64.	Wooler, North Northum- berland	Inhabitants of a small town, of pure local descent	20	5 ft. 8·7 in.	162·5	1·7256	68·94
65.	North part of Northumber- land, including Morpeth, Alnwick, Rothbury, Bel- ford, etc.	The Percy Artillery Volunteer Corps, who were all measured, but only 290 came within the prescribed limits of age. All classes and occupations	270	5 ft. 8·77 in.	163·57	1·7477	69·39
66.	Boulmer (fishing village), near Alnwick	Fishermen, in the above Corps	20	5 ft. 9·06 in.	172·5	1·7551	72·57
67.	Belford, Wooler, Chatton, all in Northumberland	The 4th Northumberland (Bel- ford) Rifle Volunteers. Oc- cupations various, but mostly village artizans	40	5 ft. 9·61 in.	162·5	1·7691	69·17

63. Mr. Tate, of Alnwick, procured this return for me from Captain Douglas. The average weight of clothing was 9 lbs. 10 ozs. Colours as follows :—

	Hair	Fair	Brown	Dark	Black	Total
.	Red	5	5	3	—	13
Eyes, Blue or Grey	—	1	1	1	1	7
,	Brown, etc.	3				
Total.....	3	6	6	4	1	20

Most of the surnames are English, or at least not distinctly Scotch.

64. Measured for me by my friend, since deceased, Dr. W. Alexander, of Wooler. (See *Crania Britannica*, vii, 216.) '8 inch and 10·5 lbs. allowed.

I owe this return (and all those from Northumberland, except Wooler and Allenheads), to George Tate, Esq., of Alnwick, F.G.S., Hon. Sec. of the Berwickshire Naturalists' Club, who procured these particulars from Major Holland. The measurements seldom go beyond inches, but the weights, in most of the districts, are more exact. 10·57 lbs. allowed. The colours of eyes and hair are given; but the several observers manifestly disagree in their system of nomenclature. On the whole, however, it is clear that hazel or brown eyes are pretty common, and that the hair is usually brown rather than either very fair or dark.

65. 12·5 lbs. allowed. I have selected these fishermen for a separate item, as Boulmer is so small a village (it contained only 150 people in 1851), that we must have here almost, if not quite, every native fisherman in the place, and the average must nearly represent that of the community. With two exceptions, all had blue or grey eyes, and with five exceptions were named Stephenson, Stanton, or Stewart.

66. Procured for me by Mr. Tate from Sergeant-Major Treble. 10 lbs. allowed for clothing. 22 blue, 7 grey, 6 hazel, 4 brown eyes. About 11 bear surnames apparently Scotch.

No.	Place or district of birth.	Class of persons observed.	Average height. With shoes.	Without shoes.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
		No. of persons. N.	ft. in.	ft. in.	ft. in.	meters.	
68.	Alnwick and neighbourhood	5th Northumberland (Alnwick) Rifles. All classes	20	5 9·42	161·0	1·7643	68·59
69.	Morpeth and neighbourhood	Morpeth Rifles. All classes except labourers	15	5 9·46	172·8	1·7434	73·47
		Farmers included in the above returns from Volunteer Corps	27	5 10·1	173·1	1·7816	73·47
70.	Newcastle-on-Tyne	Northumberland Light Infantry Militia (artizans and unskilled labourers)	294	5 6·20	1·6824		
	Gateshead	Ditto	11	5 6·57	1·6918		
	North Shields, Tynemouth, etc., and suburbs of Newcastle	Ditto	20	5 6·63	1·6934		
	Berwick and Tweedmouth	Ditto	21	5 7·00	1·7028		
	Morpeth and Alnwick (32), and rest of Northumberland (10)	Ditto	42	5 7·19	1·7076		
	Rest of England	Ditto	17	5 6·85	1·6990		
	Ireland	Ditto	21	5 6·88	1·6997		
	Scotland	Ditto	15	5 7·43	1·7137		

68.

By Mr. Tate, from Captain Browne. 10 lbs. allowed.

69. By Mr. Tate also. 10·8 lbs. allowed, and ·86 in. for shoes. In 56 men of all ages, measured for this and the preceding return :—

	Hair	Red	Fair	Brown	Dark	Black	Total
Hair	3		12	15	5	3	38
Eyes, Blue or Grey			2	6	6	2	18
, Lt. Brown, Hazel, &c.	2						
Total.....	5	14	21	11	5	5	56

I think Mr. Tate's classification would nearly agree with mine, except that I might call his "black" very ⁺⁷ *dark brown*. The eyes are well discriminated, as follows :—Blue, Light Blue 9, Dark Blue 8; Grey, Light Grey 20, Dark Grey 1; Light Brown 2, Hazel, Brown, etc., 16.

70. This return, including all the men in the regiment of fit age, is also due to Mr. Tate. I have divided it with reference to the birthplaces. The small size of the militiamen, especially the townsmen, as compared with the Northumberland volunteers, is the more noteworthy as there is a minimum standard of 5 feet 4 inches.

No.	Place or district of birth.	Class of persons observed.	N. o. of per- sons.	Average height.			Naked height.	Naked weight. kilos.
				With shoes.	Without shoes.	Average weight.		
71.	Allendale, South Northumberland	Lead miners living at elevations of from 800 to 1600 feet above the sea. A fair sample	25	ft. in.	ft. in.	lbs.	meters. 1·7427	68.03
72.	Aspatria, Brayton, and neighbourhood (western part of plain country of Cumberland)	Rural population, chiefly labourers and village artizans	45	5 8·40		159.9	1·7155	67·58
73.	Westmoreland, Furness, and South Cumberland. Chiefly Millom (C.), and Stainmore (W.)	Clergymen, farmers, miners, and others	26	5 9·46		164·77	1·7409	69·62
74.	Ambleside, Grasmere, and neighbourhood, Westmoreland	Village population, chiefly stonewallers, carpenters, and painters	48	5 9·34		165·0	1·7434	70·30
75.	Cumberland and Westmoreland. All parts	Miscellaneous, from several reports	14	5 9·00		161·0	1·7333	68·26

71. Procured for me by T. Sopwith, Esq., F.R.S., from Mr. John Curry, Superintendent at Allenheads. 9·34 lbs. allowed. Colours in 24 :—
- | | Red | Fair | Brown | Dark | Black (?) | Total |
|--------------------|-----|------|-------|------|-----------|-------|
| Hair | 1 | 1 | 7 | 2 | 5 | 16 |
| Eyes, Grey | — | — | 1 | 2 | 1 | 4 |
| ,” Dark Grey | — | — | — | 1 | 3 | 4 |
| ,” Brown | — | — | — | — | — | — |
| Total..... | 1 | 1 | 8 | 5 | 9 | 24 |
- Ethnographically, the diminution of the Teutonic race-element in this district, as compared with East Northumberland and West Cumberland, is accompanied, apparently, with darkening of the hair.
72. By William Lawson, Esq., of Brayton, Aspatria. The persons measured were in great part those employed on his land. ·9 inch and 10·9 lbs. allowed for shoes and clothing. Colours :—
- | | Red | Fair | Brown | Dark, &c. | Total |
|--------------------|-----|------|-------|-----------|-------|
| Hair | 3 | 6 | 12 | 6 | 27 |
| Eyes, Light | — | — | 2 | 3 | 5 |
| ,” Dark Grey | — | — | — | 5 | 13 |
| ,” Brown, &c. | — | — | 8 | 5 | — |
| Total | 3 | 6 | 22 | 14 | 45 |
73. By the Rev. J. Irving, of Millom, and afterwards of Stainmore. Heights mostly in inches; weights accurate. ·96 inch and 11·27 lbs. allowed. The Westmoreland men rather surpass the Cumberlanders in size.
74. By George Fothergill, Esq., and Mr. W. Garside, master painter, Ambleside. Measurements and weights very exact. A few men (7) barefooted. ·74 inch and 10 lbs. allowed.
75. ·8 inch and 10·5 lbs. allowed. Almost all fair men. These four reports should yield a tolerable average of the Cumbrian population, outside of Carlisle. The results are 5 feet 8·94 inches and 162·7 lbs., which I should have thought rather below than above the mark.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs. 152·4	Naked height. meters. 1·6870	Naked weight. kilos. 64·37
76.	Haswell, Fence - Houses, Easington, and neighbourhood, in co. Durham	All coal-miners	51	5 7·38				
77.	County Durham in general	Almost all of the working-classes, especially fitters, founders, and other iron-workers	35	5 8·68			1·52·9	1·7244 64·83
78.	North Riding of York, especially Western Cleveland	Inhabitants of Middlesborough: a mixture of classes and occupations	20	5 8·88			1·57·8	1·7302 67·26
79.	Staithes, fishing village, near Whitby	Fishermen	6	5 10·16			1·66·2	1·7513 68·94
80.	Ormesby parish, Cleveland; mostly from Normanby township	Mixed rural and village population	20	5 9·30			1·66·3	1·7384 70·66
81.	Danby in Eskdale, and neighbourhood (Eastern Moorlands)	As the last: country artizans and labourers	16			5 9·25	1·61·7	1·7600 68·80

76. By Dr. John E. Macdonald, of Haswell. A very accurate return, and a fair sample. Some men were weighed before going down, and others after coming up. I allow 1 inch for shoes and (by Dr. Macdonald's direction) $10\frac{1}{2}$ lbs. for clothing.

COLOURS IN 52.			Total
	Fair	Brown	Dark and Black
Hair	Red, etc.		
Eyes, Blue, Grey, etc....	5	14	2
," Brown	1	2	11
Total	6	15	25
			52

Some of Dr. Macdonald's "Brown" I should probably call "Dark." The names yield little indication as to the admixture of race. Very few appear Scotch, and only 5 end in 'son.

25
77. 20 of these are from Mr. Ellerton's return of inhabitants of Middlesborough, and 5 from his Normandy return; the remaining 10 from various other schedules. All 3 divisions exhibit the same character of tall stature and light weight. '83 in. and 10 lbs. allowed. 15 ironworkers average 5 ft. 8·17 ins. and 152·4 lbs.

78. Part of a careful return by John Ellerton, Esq., of Middlesborough, F.A.S.L. All reckoned as in shoes, for which '8 inch allowed, and 9·5 lbs. for clothes.

79. Another portion of Mr. Ellerton's return. Measured and weighed in thick fishing boots. I have allowed 1·25 inch and 14·25 lbs.

80. A separate return by Mr. Ellerton, and also very exact. I allow '9 inch and $10\frac{1}{2}$ lbs.

81. By the Rev. J. C. Atkinson, incumbent of Danby, and author of the *Glossary of the Cleveland Dialect*.
10 lbs. allowed for clothing. Light eyes and dark hair seem to prevail.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
82.	Kirkdale (near Helmsley, in the Eastern Moor-lands) and neighbour-hood	Rural population : all classes	16	5 9·81		168·0	1·7511	71·21
83.	Malton, on border of East and North Ridings	Mixed town population : fair sample	15		5 7·81	157·8	1·7234	66·90
84.	Richmond and Gilling and neighbourhood, Swale-dale, North Riding	Farmers, tradesmen, and arti-zans	30			5 10·01	170·7	72·34
85.	East Riding ; divers parts	All the males of fit age living on a farm on the Wolds near Beverley	9			5 9·05	158·2	1·7549

82.

By the Rev. C. Tudor, incumbent of Kirkdale. ·91 inch and 11 lbs. allowed.

83. Procured for me by Francis Wright, Esq., M.D., etc., who considered it a fair sample. 10·3 lbs. allowed. Colours in 30 Kirkdale, Helmsley, and Malton men.

	Hair	Red	Fair or Lt.	Brown	Brown	Dark	Black	Total
Eyes, Light	1		5	5		3	—	14
,, Neutral, etc.....	—		6	—		2	1	9
,, Brown	—		1	3		3	—	7
Total	1		12	8		8	1	30

53
The difference in colours between Kirkdale and Danby is great, and probably not accidental.

84. By E. M. Wood, Esq., F.G.S., F.A.S.L., who thinks the sample fair. The average stature is the highest I have gotten in England. 11·2 lbs. allowed. Colours as follows:—

	Hair	Red	Light	Dark Brown	Black	Total
Eyes, Blue or Light Grey	2		4	7	1	14
,, Light Brown.....	—		3	2	2	7
,, Dark Brown	—		—	7	2	9
Total	2		7	16	5	30

Probably I should have called these “dark browns” *brown*, and these “blacks” *dark*. If so, the colours are just what prevail in the central part of the West Riding and in the Kirkdale return (82).

85. “An East Yorkshireman is not an animal whom it is easy to catch, and weigh, and measure.” The clergyman who obtained for me this report could only succeed by promising not to allow his own name or that of the farm or of the parish to be published. 8·7 lbs. allowed.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes.	Average height. Without shoes.	Average weight. lbs. ft. in.	Naked height. meters.	Naked weight. kilos.
86.	East Riding (except Hull and Beverley)	Men in the Hull Police Force	28	5 9·62	5 9·62	168·4	1·7693	71·39
	Hull, Beverley, and York	Ditto, ditto	18	5 9·10	5 9·10	160·0	1·7561	67·58
87.	Ripon, Kirkby Overblow, and the plain of York	Rural or semi-rural population of all classes	20	5 8·55		160·2	1·7093	68·03
88.	Bentham and neighbourhood, West Riding, on Lancashire and Westmoreland border	Farmers, tradesmen, etc., taken as met with: population of a mountainous district Of these farmers Residue	26 11 15	5 10·01 5 10·72 5 9·49		177·16 17561 165·6	74·84 1·7739 1·7434	74 81·64 69·85
89.	Grassington & neighbourhood, Upper Wharfedale; (with 8 Aircdale and 2 Nidderdale men)	All the lead-miners, including a few smelters, ore-dressers, etc., employed in the Grassington and Conorley mines	74	5 8·18		156·48	1·7073	66·22

86. By Kelburne King, M.D., F.A.S.L., whose report included the whole Police Force of Hull. Heights accurate ; weights rather loose. 11 lbs. allowed.
See above. 25 Lincolnshire men, in the same report, averaged 5 feet 9·60 inches and 169·3, and 15 Irishmen 5 feet 9 inches and 164·4.
There is a great preponderance of light and brown hair over dark shades in all these East Riding reports, whether from town or country.

87. From two small reports by Dr. Paley, of Ripon, and Dr. James Wood, of Kirkby Overblow, with additions. The Ripon men were mostly farm servants. 9 inch and 10·2 lbs. allowed.

88. By J. W. Kaye, Esq., F.A.S.L., Bentham. 9 inch and 12·16 lbs. allowed. A very accurate return, which Mr. Kaye took pains to render quite fair. Colours in 30 :—

	Red	Light	Brown	Dark	Black	Total
Hair	9	7	2	2	—	19
Eyes, Light Grey, Blue	1	—	2	2	—	5
„ Dark Grey, Light Brown	1	—	3	2	1	6
„ Brown or Dark	—	—	—	—	—	—
Total.....	2	9	12	6	1	30

This district is markeworthy in more than one respect. There has been, until quite lately, much in-and-out breeding; but I am told that the race is not only stalwart and long-lived, but very free from idiocy and insanity. The food is chiefly oat-cake, milk, and Yorkshire (wheaten) pudding, with bacon sometimes, but little other flesh-meat; home-brewed beer is used. See also the Lancaster return (98).

89. By James Ray Eddy, Esq., of Skipton, Superintendent of the Mines. 1 inch and 10½ lbs. allowed. Colours in 73 :—

	Hair	Red	Light	Brown	Dark or Black	Total
Eyes, Blue or Light	4	10	22	11	47	
„ Grey or Hazel	—	2	5	4	11	
„ Brown.....	—	—	1	5	9	15
Total	4	13	32	24		73

Compare the returns from Wanlockhead, Allenheads, Cardiganshire, and Devonshire.

No.	Place or district of birth.	Class of persons observed.	No. of persons. N	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
90.	Farnley (near Leeds) and surrounding villages and country	Smiths, puddlers, furnace-men, and others engaged in the smelting and working of iron	55	5 7·66		162·0	1·6940	68·71
91.	Ditto, ditto	Unskilled labourers in the same iron-work	24	5 6·53		149·2	1·6680	63·13
92.	Ditto, ditto	Various occupations, as clerks, carpenters, weavers, with a few of the upper class	30	5 8·59		156·1	1·7228	66·22
93.	Haworth and neighbouring district, West Riding	Weavers, over-lookers, and others, employed in the woollen manufacture at Haworth	52	5 7·33		151·0	1·6858	63·95
94.	Keighley and Bingley, West Riding	As above ; also at Haworth	20	5 6·46		144·2	1·6688	60·86
95.	Sheffield, town and suburbs	Ditto ; entire report (93, 94, 99)	91	5 6·91		147·6	1·6750	62·41
	Town alone	Almost all employed in some branch of cutlery manufacture (see details below)	100	5 6·55		142·5	1·6723	60·23
	Suburbs		88	5 6·50		142·2	1·6710	60·10
			12	5 6·87		144·8	1·6800	61·23
			5	5 10·0		160·4	1·758	68·03
	Policemen							

90 These three are divisions of one large return sent by W. J. Armitage, Esq., of Farnley, through Dr.
 91 Armitage. 1 inch and $10\frac{1}{2}$ lbs. allowed in the first, '9 inch and 10 lbs. in the second, '8 and 10·1 lbs. in the
 92 third division. Farnley is a half suburban coal and iron district. The natives have mostly the light-haired,
 grey- or light brown-eyed type which is so prevalent in the West Riding.

93. This and the next item, together with No. 99 from Lancashire, are portions of one valuable report by
 Dr. A. Ingham, of Haworth, including altogether 91 individuals, workers in the woollen factories there. I
 allow 1 inch and 10 lbs. for shoes (or clogs in some cases) and clothes.

94. In 69 men the colours are given as follows :—

	Red	Fair	Dark	Black	Total
Eyes, Blue or Grey	3	10	22	—	35
,, Dark Grey (neutral)	1	6	9	2	18
,, Brown, etc.	1	2	10	3	16
Total	5	18	41	5	69

Some shades of hair which Dr. Ingham calls "dark brown" would, no doubt, be "brown" on my scale. The notable point here is the prevalence of neutral eyes, often conjoined with light hair, in Airedale and the neighbouring highlands. I myself found 24 per cent. of neutral-eyed persons at Skipton-in-Craven. Haworth is a bleak elevated moorland district, with a mainly manufacturing population, in scattered villages and hamlets. Keighley and Bingley are neighbouring towns ; their population is, I think, pretty purely indigenous ; but the difference in this otherwise homogeneous report between the town-born and the country-born men is striking.

95. This is an abstract of several reports compiled for me in Sheffield by the Rev. J. Lettis Short, who was assisted by Dr. Aveling, and by several of the local manufacturers. '75 inch and 9·7 lbs. are allowed for shoes and clothing, and I have varied this allowance as seemed fit in the several subdivisions ; the file-makers, for example, were measured in very light shoes, the smiths in thick shoes, or even in clogs. The policemen,

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
96.	Southern part of the West Riding, excluding Sheffield and suburbs	Merchants and manufacturers Clerks and warehousemen Smiths, furnacemen, moulders, rollers, etc. Scissor-makers File-makers Cutlers not otherwise specified Horn-workers Labourers	4 9 13 12 13 31 9 4	5 7·6 5 7·4 5 7·4 5 6·1 5 4·4 5 6·3 5 6·9 5 4·7	156·5 133·1 157·3 134·7 129·6 142·5 145·7 137·0	1·697 1·695 1·680 1·664 1·624 1·670 1·682 1·624	57·15 54·88 60·32 61·68 57·60	
97.	Yorkshire in general, except the northern parts, especially York, Hull, and Halifax	Persons of various occupations living in Sheffield; viz. — Policemen Filemakers, etc. Smiths, horn-workers, joiners, etc.	30 6 6 18	5 7·8 5 9·91 5 5·66 5 7·77	147·0	1·7023	62·14	
98.	Lancaster and neighbourhood, including the Bentham district (88)	From several reports; mostly persons living in towns, of all classes and occupations	40	5 8·01	154·1	1·7079	65·36	
		Attendants in the County Lunatic Asylum; fair sample	19	5 9·97	179·1	1·7579	76·20	

who were admitted to represent the classes of men picked for superiority in physique, were the only ones in the local force, over 23 years of age, who were natives of Sheffield. Of the 91 persons connected with the iron and cutlery manufacture, the averages would be 5 feet 6·43 inches and 141·76 lbs.

Mr. Short's report comprised a good many natives of other places than Sheffield, who have been distributed under their proper heads. Comparatively few of them were cutlers, file-makers, etc.; and I presume these occupations are usually hereditary. As for colour, there are doubtful indications that the Sheffield men are oftener dark-haired than those of the surrounding country, who are decidedly fair. The family names yield no evidence of much immigration from a distance. The fair men are conspicuously larger than the dark, the light and brown-haired averaging 5 feet 7·3 inches, the dark brown 5 feet 5·8 inches, and the black 5 feet 5 inches only. But no such difference is to be noted in other returns from Yorkshire.

96. This is a part of Mr. J. Lettis Short's series of returns from Sheffield. I have made allowances of .8 inch and 10 lbs., slightly varied for the subdivisions. The policemen are included simply for the sake of a fair comparison with the genuine natives of Sheffield; but even if they are excluded, the country-born men retain the advantage.

97. Mostly from Hull, Kidderminster, and Bristol returns, by Messrs. Casson and Stretton and myself. A remarkably fair and varied sample of town-dwelling population, as regards classes and occupations. .8 inch and 10 lbs. allowed. Hair in 37—1 red, 8 fair, 12 brown, 13 dark, 3 black.

98. By Dr. Niel Gray Mercer, Assistant Medical Officer. These men are a fair sample of a picked class. 8 of them, from Bentham and adjacent parishes, average 5 feet 10·7 inches and 192 lbs. 5 Lancaster men 5 feet 8·7 inches and 161·6 lbs. .8 inch and 11·4 lbs. allowed.

No.	Place or district of birth.	Class of persons observed.	Average height.				Naked weight.
			No. of persons	With shoes.	Without shoes.	Average weight.	
99.	Colne, Trawden, and neighbourhood, Lancashire	Part of the Haworth return (93); woollen weavers, etc.	19	5 ft. 5 in.	6 ft. 2 in.	141·8 lbs.	59·87 kilos.
100.	Manchester and Lancashire in general	Artizans, labourers, etc., living in Manchester	13		5 ft. 5 in.	136·8 lbs.	1·6573 meters.
101.	Manchester, Haslingden, and Lancashire in general	Various occupations, mostly out-door; <i>e.g.</i> , quarrymen and navvies; collected from several reports	20	5 ft. 7 in.	80 in.	153·3 lbs.	58·05 kilos.
102.	Gainsborough and neighbourhood	Inhabitants of Gainsborough, born there or in the neighbourhood; mostly of the working class; occupations various	33		5 ft. 7 in.	78 lbs.	65·02 meters.
103.	Walesby, near Market Rasen, in Lindsey	Rural population	21	5 ft. 8 in.	26 in.	153·78 lbs.	65·21 meters.
104.	Boston	Men born and living in Boston; many of old local descent; Labourers, tradesmen, artizans, fishermen, & policemen	34		5 ft. 8 in.	165·4 lbs.	70·48 kilos.
105.	Villages near Boston	People living in Boston; mostly labourers	15		5 ft. 9 in.	174·3 lbs.	74·38 kilos.

99. By Dr. Ingham (see 93). 1 inch and 9·8 lbs. allowed for shoes, or clogs, and clothing.
100. Part of a return from Manchester, by Dr. Fairbank, Hon. Sec. Manch. Anthr. Soc. 8·8 lbs. allowed.
101. ·9 inch and 10 lbs. allowed.
102. By Draper Mackinder, M.D., etc., of Gainsborough. Apparently a very fair sample, and a valuable contribution. I have allowed 10 lbs. for clothes. Colour of eyes and hair :—
- | | Fair | Brown | Dark Brown | Black | Total |
|-------------------|------|-------|------------|-------|-------|
| Blue or Grey..... | 4 | 8 | 7 | 2 | 21 |
| Dark Grey..... | — | — | 3 | — | 3 |
| Brown..... | — | 6 | 2 | 1 | 9 |
| Total | 4 | 14 | 12 | 3 | 33 |
103. By Elam Cartwright, Esq., Walesby. ·9 inch and 10·3 lbs. for shoes and clothes. Colours of Eyes : 12 blue, 1 grey, 5 hazel, 3 dark.
104. By Mercer Adam, M.D., F.A.S.L., etc., Boston. The inclusion of 4 policemen may raise the average a little too high, but otherwise Dr. Adam thinks it fair. 10 lbs. allowed.
105. Also by Dr. Adam. In this and the two next returns I allow ·9 inch and 10·3 lbs. for shoes and clothes.

No.	Place or district of birth.	Class of persons observed.	Average height.			Naked height.	Naked weight. kilos.
			No. of persons. N.	With shoes. ft. in.	Without shoes. ft. in.		
106.	Leverton and Stickney : villages on the edge of the Fens	Villages on the edges of the Fens ; rural population	24	5 7·73		158·7	67·31
107.	Long Sutton, South-east Lincolnshire	Labourers who entered a druggist's shop one Saturday evening	26	5 7·77		157·1	66·58
108.	Stoke Rochford and Colsterworth, near Grantham	Village population ; all classes	20	5 8·00		162·1	68·94
109.	Lincolnshire in general	Miscellaneous	10	5 8·35		152·9	64·81
110.	Lincolnshire	Total	183	5 8·43		159·0	67·50

106. For this return also I am indebted to the exertions of Dr. Adam ; but the particulars were ascertained by others. The colours of hair were noted in 59 cases out of the three returns. There were 7 red, 12 fair, 10 brown, 20 dark brown, and 8 black; but Dr. Adam's nomenclature of colour must differ somewhat from mine. The Bostonites are a very fair people, compared with Englishmen in general, but hazel eyes are very common among them : they much resemble, in my opinion, the inhabitants of some parts of the Netherlands.

107. By Arthur B. Ewen, F.A.S.L., etc., Long Sutton. From the mode in which the return was got, Mr. Ewen thinks it yields a fair average of the labouring population. Long Sutton is a low-lying district, not true fen, but chiefly land reclaimed from the Wash. There is much opium consumed there. Colours of eyes and hair :—

	Fair	Brown	Dark Brown	Black or very dark	Total
Blue, Grey, Green-Grey ...	6	7	1	—	14
Dark Grey.....	—	1	2	4	7
Brown.....	—	—	3	5	8
Total	6	8	6	6	26

108. A very fair return, by the late Rev. Richard Cartwright, rector of Stoke. •85 inch and 10•1 lbs. allowed.

109. Mostly from my own Bristol return. •8 inch and 10 lbs.

110. No English county, not even Yorkshire, is better represented in my lists than Lincolnshire, regarding the number and careful execution of the returns, the variety of their composition, and the proportion of the several elements of population. Only the upper class is ill represented. The Lincolnshire men exceed the average of England both in height and weight. The race is Anglo-Danish. The Celtic element is probably very weak. In most parts of the county fair and light brown hair preponderate over dark. In these returns the fair men have generally the advantage in height, but not in weight.

No.	Place or district of birth.	Class of persons observed.	No. of persons N.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs. 164.	Naked height. meters. 1·7307	Naked weight. kilos. 69·62
111.	Lynby, 7 miles north of Nottingham	Rural population; mostly labourers	20	5 9·07				
112.	Nottingham and suburbs	Warehousemen	26	5 7·53		142·4	1·6977	60·05
113.	Nottingham and suburbs	Workmen in a lace factory	23	5 6·54		139·1	1·6723	58·78
114.	Newark and neighbourhood	All classes: town and country	30	5 8·55		163·1	1·7206	69·31
115.	Nottinghamshire in general, especially the Sherwood district	Men employed in Butterley iron-works; mostly unskilled labourers	22	5 6·96		146·8	1·6790	62·04
116.	Ditto, ditto	Miscellaneous	17	5 7·82		155·5	1·7015	66·00
117.	Nottinghamshire	Total	138	5 7·76		151·8	1·7006	64·31

111.

I owe this and the two following returns to my friend Dr. Tindal Robertson, of Nottingham. They are particularly valuable as furnishing means for a comparison of town and country populations : the contrast in this case is great. I allow .97 inch and 10.5 lbs. for shoes and clothes. The colours of the eyes and hair in the countrymen were as follows :—

	Red	Fair	Brown	Dark	Black	Total
Blue or Grey	1	2	7	1	—	11
Dark Grey	—	1	2	—	—	3
Brown, etc.	—	—	1	3	2	6
	1	3	10	4	2	25

112)

In these two reports I have allowed .73 inch and 10 lbs. and 9.5 lbs. for shoes and clothes. In 48 the colours were :—

	Hair	Fair	Lt. Brown	Brown	Dk. Brown	Black	Total
Eyes, Blue or Grey ...	2	4	5	10	3	—	24
Dark Grey	1	—	—	3	1	—	5
,” Brown, etc....	—	—	—	8	5	6	19
	2	4	5	21	9	6	48

The dark men here exceed the fair in stature.

113)

By S. Job, Esq., of Newark. Probably a very fair sample of the population of the town and neighbourhood. Weights very exact, but stature given in inches only. I allow .85 inch and 10.1 lbs. for shoes and clothes.

I owe this return to my late friend J. T. Featherstone, Surgeon to the Butterley Ironworks, who lost his life, shortly after he had compiled it, by a lamentable accident. .9 inch and 10 lbs. allowed.

114.

Extracted from the Bristol, Sheffield, and Farnley returns. .87 inch and 10 lbs. allowed.

115.

The middle class is hardly at all represented in the Nottinghamshire returns, except in 112 and 114; otherwise the county is probably pretty fairly exhibited. Notable points are, that the men are generally

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight. Without shoes.	Naked height.	Naked weight. kilos.
				With shoes.	ft. in.			
118.	Derbyshire (Central especially)	D. Persons variously employed about the Butterley iron-works, near Alfreton	34	5 8·24		156·1	1·7114	66·26
		Part of the Sheffield police force	11		5 9·41	167·6	1·7640	70·98
		Mixed, in the returns from Sheffield and other towns	14	5 7·21		152·8	1·6878	64·86
119.	Northern Derbyshire							
120.	Derbyshire in general							
121.	Wetton, near Longnor, in the North Staffordshire Moorlands	Rural population; all classes and occupations; a very fair sample apparently	20	5 9·72		164·0	1·7465	69·39
122.	The Staffordshire Pottery District	Potters employed in various branches of the manufacture at the Etruria Pottery	25	5 7·18		147·54	1·6875	62·59
123.	Burton-on-Trent, and the eastern parts of Staffordshire	A mixture of town and country people; about half of the middle class	18		5 8·86	166·0	1·7500	70·53
124.	Staffordshire in general	Mixed; from various reports; many iron-workers	25	5 7·54		158·4	1·6962	67·31
125.	Staffordshire	Total	88	5 8·36		157	1·7163	66·67

- C₇
- rather tall, but of comparatively light weight; that there is evidence of physical degeneration in Nottingham; and that, whether from admixture of blood or other causes, the general fairness of the people is a little less conspicuous there. The race is still Anglo-Danish, with comparatively little admixture of the Keltic element.
- By my late friend J. F. Featherstone, Esq., of Codnor Park, Alfreton. See 115. ·9 inch and 10 lbs. allowed.
118. By Dr. Aveling, through the Rev. J. Lettis Short. 11·1 lbs. allowed.
119. ·8 inch and 9·8 lbs. allowed.
120. Mr. Samuel Carrington, for Dr. Barnard Davis, F.R.S. ·9 inch and 11 lbs. allowed.
121. Dr. Barnard Davis himself procured this for me. ·78 inch and 9·54 lbs. allowed.
122. Eyes: Blue or Grey in 18; Brown in 7.
Hair: Red, 1; Fair, 1; Light Brown, 9; Brown, 7; Dark Brown and Black, 7.
The occupation of potters is generally hereditary.
123. Wm. Molyneux, Esq., Burton-on-Trent, through Dr. Barnard Davis. 10½ lbs. allowed. Heights seldom carried beyond inches, but weights in pounds. Extremes 5 feet 4 inches and 6 feet 2 inches. Only one corpulent man. The average looks high, but the neighbourhood does produce many large men. The fair men in this return much exceed the dark in both respects.
124. ·8 inch and 10 lbs. allowed.
125. Staffordshire, except the "black country," is pretty well represented in these four returns. The native race is large and generally rather fair-complexioned.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Naked weight.
				With shoes.	Without shoes.	
126.	Congleton, Cheshire	Silkspinners : a fair sample	19	5 ft. 5 in.	5 ft. 8 in.	145·7 lbs.
127.	Cheshire in general	Miscellaneous ; from several reports	7	5 ft. 8 in.	5 ft. 2 in.	155·4 lbs.
128.	Countesthorpe, Leicestershire	Frame-work knitters	29	5 ft. 8 in.	5 ft. 6 in.	155·6 lbs.
129.	Countesthorpe	Labourers and other out-door workmen	15	5 ft. 7 in.	5 ft. 3 in.	151·4 lbs.
130.	Leicester and neighbourhood	Frame-work knitters and others living in Leicester	10	5 ft. 6 in.	5 ft. 5 in.	159·4 lbs.
131.	Leicestershire in general	Miscellaneous : employed some in town, some in country	11	5 ft. 8 in.	5 ft. 3 in.	149·1 lbs.

REMARKS.

No.		
126.	By Robert Beales, Esq., M.D., Congleton.	.71 inch and 9.2 lbs. allowed.
	Hair Red	Light Brown Dark or Black
	Hair Light	1 4
	Eyes, Light	2
	" Neutral	—
	" Brown	—
	Total	5
		4
		9
		20
127.	By the Rev. J. P. Tomkins, M.A., of Great Peatling.	A fair sample, taken at a rural station. I allow .83 inch and 10 lbs. allowed.
128.	By the Rev. J. P. Tomkins, M.A., of Great Peatling.	.82 inch and 10 lbs. for shoes and clothes. Colour :—
	Hair Fair	Brown
	Hair.....	6
	Eyes, Blue or Grey	2
	" Brown	—
	Total	2
		17
		1
		10
129.	Also by the Rev. J. P. Tomkins.	.9 inch and 10 lbs. for shoes and clothes. The colours are :—
	Hair Fair	Brown
	Hair.....	7
	Eyes, Blue or Grey	5
	" Brown	—
	Total	—
		12
		2
		1
130.	By W. R. Cole, Esq., for John Bowman, Esq.	10 lbs. allowed for clothes.
131.	From other reports.	.84 inch and 10 lbs. for shoes and clothes. Colours in 20 men in this and the last lot :—
	Hair	Brown
	Hair Light	Dark
	Eyes, Blue or Grey	1
	" Light or Dark Hazel	3
	Total	4
		10
		4
		2
		20
		12
		8
		12

No.	Place or district of birth.	Class of persons observed.	Average height.			Naked weight.	Naked weight.	
			No. of persons.	% of persons.	With shoes. ft. in.	Without shoes. ft. in.	Average weight. lbs.	
132.	Leicestershire—total		65		5 7.24	154.1	1.7095	65.36
133.	Cottesmore, Rutland	Agricultural labourers : taken as met with	16	5	7.00	153.4	1.6799	65.04
134.	Silverstone and Evenley, South-west Northamptonshire	Purely rural population (farmers and labourers)	21	5	8.62	157.6	1.7185	66.67
135.	Radstone and Syresham, South-west Northamptonshire	Rural population, including village artizans	21	5	7.57	154.6	1.6977	65.58
136.	Heyford, Bugbrook, and neighbourhood, South-west Central Northamptonshire	Village artisans, agricultural labourers, quarrymen, etc., very fairly taken	32	5	7.48	156.6	1.6952	66.50
137.	Heyford, Stowe, and as above	As above, and also a fair sample	20	5	7.50	160.5	1.7155	68.26

132. All these returns, as well as that from Mr. Buck, of the Leicestershire Asylum, agree in indicating a high average of stature among the Leicestershire folk. The large proportion of brown eyes, amounting to more than a half, is remarkable. I have found the same type of man abundant in the adjoining portions of Northamptonshire and East Warwickshire. Compare also Prof. Phillips's observations (quoted in the *Crania Britannica*), who supplies a possible explanation.

133. By the Rev. Stephen Miles, of Cottesmore. 9 inch and 10 lbs. allowed. Mr. Miles says most of the men were dark-haired. Rutland is, I believe, free from any sign of Danish occupation, and the people somewhat differ in type from both the Lincolnshire and the Leicestershire men.

134. Rev. W. Andrew, rector of Whitfield, near Brackley. This return and the next, which also I owe to Mr. Andrew, are composed of observations made for him by the parish schoolmasters. I allow 1 inch and 10·6 lbs.

135. Here I allow 77 inch and 10 lbs. Of 22, 14 had light and 8 dark eyes; the hair is set down as light in 10, dark or black in 12. The figures in this second return are given in inches and stones only; in the first one they are more exact.

136. John Beddoe, Esq., and Mr. J. Smith. The district is rural and pastoral in the main, but ironstone is quarried and smelted near Heyford. Both this and the next return are pretty minute as to weight, but in this one most of the measurements are given without fractions of an inch. I allow 78 inch and 10 lbs. for shoes and clothes.

137. John Beddoe, Esq., and Mr. E. Jones. 10 lbs. allowed for clothes. The colours are given as follows in 60 men:—

	Hair	Light	Brown	Dark	Black	Total
Eyes, Blue or Grey	10	16	10	2	—	38
" Dark Grey, etc.	—	1	4	—	1	5
" Brown, etc.....	2	3	11	1	1	17
Total	12	20	25	3	3	60

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes.	Average height. Without shoes.	Average weight. ft. in.	Average weight. lbs.	Naked height.	Naked weight. kilos.
138.	Wellingborough, Northamptonshire	Fifteen bootmakers, the rest bricklayers, etc.	23	5 7·87			148·1	1·7046	62·63
139.	Northamptonshire in general	Miscellaneous; from various reports: a good many being unskilled labourers in ironworks	19	5 6·37			142·9	1·6664	60·28
140.	Northamptonshire—total		136	5 7·71			152·9	1·6990	64·78
141.	Flegg, N.E. Norfolk ... 21 Sustead, N.E. Norfolk ... 9	A very fair sample of a rural population, including all classes	30	5 8·94	175·4		1·7521	74·61	
142.	Ormesby and other fishing villages near Fleggburgh	Fishermen	30	5 8·25	153·9		1·7345	64·86	

REMARKS.

No.

138. W. W. Clark, M.D., Wellingborough. Heights in inches only. I allow .8 inch and 10 lbs. for shoes and clothes. The average height appears markworthy, but Dr. Clarke says the shoemakers of Wellingtonborough are generally tall and thin. The average of the 15 is 5 feet 8 inches and 146 lbs., so that they are taller and lighter than the other men. They are also darker in eyes and hair, but the numbers are of course insufficient in that point of view.

139. I allow .8 inch and 10 lbs. for shoes and clothes. The averages here are singularly low; but the list includes a number of a class by no means favoured.

140. It is evident, nevertheless, that the Northamptonshire breed is in general of stature fully equal to the average of England.

141. I owe these valuable data to J. T. Waller, Esq., M.R.C.S., of Flegg Burgh: incorporated with them ⁷¹ are observations taken at Sustead by Basil Edwards, Esq. 10·9 lbs. allowed for clothes in each case. Sustead is a little to the N.W. of Flegg. Both districts are purely rural, and extend to the coast. Flegg is flat and well watered; it is remarkable for the almost exclusive prevalence of Danish local names, such as Ormesby, Repps, etc. The great stature and fair complexion of the people are noteworthy in relation to this fact. Mr. Waller informs me that if he had not, in the case of some almost gigantic families, confined himself to measuring but one specimen, the average might have been higher.

The following are the complexional colours, as reported to me:—

	Blue or Grey Eyes.			Dark Eyes.		
	Red	Light	Dark	Black	Light	Dark
Hair.....	4	15	3	1	1	6
Landsmen	—	12	5	2	—	8
Fishermen	—	—	—	—	—	3
Total	4	27	8	3	1	14
						3

It will be seen that the two sections differ much in size and colour: the landsmen being fairer, taller,

No.	Place or district of birth.	Class of persons observed.	N. ^o . of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
143.	Norwich and neighbourhood	Infirmary out-patients, with trivial or accidental complaints	24	5 6·79		144.1	1·6774	61·00
144.	Neighbourhood of Lynn Regis	Ditto, ditto; mostly agricultural labourers	12	5 7·68		147·75	1·6977	62·47
145.	Lynn Regis	Mixed, including several fishermen; mostly of old local descent	18	5 8·20		154·94	1·7129	65·54
146.	Norfolk in general, especially Norwich	Very various, and from several reports	10	5 8·20		151·3	1·7129	64·09
147.	Haverhill, South-west Suffolk	Labourers, etc.	21	5 6·60		147·0	1·6723	62·14
148.	Bury St. Edmund's and neighbourhood	Chiefly tradesmen and artizans	29		5 7·38	161·4*	1·7124	68·94
149.	Laxfield (village in East Suffolk)	Agricultural labourers, artizans, and small tradesmen, members of a Friendly Society	25	5 6·66		153·2	1·6723	64·95

REMARKS.

No.

- and much heavier than the fishermen. I cannot explain this, unless conjecturally. In both sections the fair men are conspicuously taller than the dark, and in the landsmen also much heavier, the fair men averaging 5 feet 9·9 inches and 188 lbs. The once well-known "Norfolk giant" was born in the neighbourhood of Flegg.
- By Dr. M. Beverley, through W. Cadge, Esq., F.R.C.S. ·79 inch and 9·6 lbs. allowed. See 144, and the similar returns from Bristol and Taunton. The population of Norwich includes numerous descendants of Protestant refugees from France and the Low Countries.
- By Dr. John Lowe, F.L.S. ·88 inch and 10 lbs. allowed. Of 37, in this and the preceding report, 28 had blue or grey eyes, 1 light brown, and 8 brown. The light-haired men were rather taller than the dark.
- Also by Dr. Lowe. ·8 inch and 10·44 lbs. allowed.
- 8 inch and 10 lbs. allowed.
- Dr. Bath Smart, of Manchester, F.A.S.L., procured this return for Dr. Barnard Davis; the observations were made by Mr. D. Gurteen. I believe the men were measured in shoes, but am not certain; however, I allow ·8 inch and 10 lbs. for shoes and clothes. Grey eyes, brown (or dark brown) hair, oval faces, round foreheads, straight noses, are reported to prevail. The heads of 17 averaged 22·55 inches in circumference.
- 22 are from a report by Dr. J. W. J. Oswald. I believe they were members of a masonic lodge. The remainder were collected from several reports. On the whole, the sample is carefully taken, and is probably a pretty fair one, including a full proportion of the middle class.
- * In reckoning the weights I have excluded one very corpulent man; but obesity is apparently common in Suffolk. I allow 9·4 lbs. for clothing. Of 29, 8 had brown eyes, 17 hair of a medium brown, and only 8 dark brown hair; black did not occur.
- Dr. Henry Gramshaw, of Kelsale Hall, Framlingham. From the mode in which it was procured, this return must be a fair sample of the class. ·86 inch and 10 lbs. allowed. Half the men had brown eyes, and most of them medium brown hair.

No.	Place or district of birth.	Class of persons observed.	Average height.				Naked height.	Naked weight.
			No. of persons.	With shoes.	Without shoes.	Average weight.		
150.	Thorney and neighbourhood, Isle of Ely	Miscellaneous : village and agricultural population	25	5 8·43	ft. in.	lbs.	meters.	kilos.
151.	Parson Drove, near Wisbeach, and neighbourhood, Isle of Ely	Same as above	25	5 7·50		163.	1·7155	69·17
152.	Isle of Ely. Average of the two preceding	As above	50	5 7·96		148·8	1·6874	62·95
153.	Cottenham, Histon, and other villages in South Cambridgeshire	Labourers, with a few artizans	35	5 6·63		156·54	1·6723	66·46
154.	St. Neot's and neighbourhood, Hunts	Artizans and labourers	14	5 6·55		151·07	1·6703	63·98
155.	Dedham, Essex, and neighbourhood	Labourers and a few artizans	15	5 7·66		145·5	1·6977	61·45
156.	Rochford, Essex, and neighbourhood	Tradesmen and artizans, etc.	15			5 6·46	139·6	58·90
157.	Essex in general	Miscellaneous; from several ports	10	5 7·78		150·1	1·7023	63·51

150. By Lawrence Clapham, Esq., L.R.C.P., of Thorney Abbey. See next report. Excluding two corpulent persons, the average weight would be 157 lbs. '93 inch and $10\frac{1}{2}$ lbs. allowed.
151. By H. Stuckey, Esq., M.D., of Parson Drove. This and the last report, taken together, yield probably a fair sample of the population of the Fens. Dr. Clapham's report contains more of the middle class, and fewer labourers and artisans, than Dr. Stuckey's; both are very exact as to weight, but in the latter the measurements are seldom carried beyond inches. '9 inch and 10 lbs. allowed.

Colours of hair and eyes in 50 :—

	Red	Fair	Brown	Dark	Black	Total
Hair	—	13	9	1	—	23
Eyes, Blue or Grey	—	—	13	10	3	27
,, Hazel, Brown, Black	1	—	—	—	—	—
Total.....	1	13	22	11	3	50

The number of brown eyes is here remarkable; there is a great excess of them at Parson Drove. There is some ground for suspecting that a Welsh or aboriginal population lingered longer in the Fens than in the east of England generally. The long legs of the Fenlanders have been remarked by Kingsley (Heward).

Samuel Wright, Esq., of St. Neot's, Hunts. '83 inch and 10 lbs. allowed. 11 of 39 had dark eyes. The dark-haired men average higher than the fair. The reverse is the case at Thorney.

Also from Mr. Wright's returns. Allowances as before. 9 out of 15 are marked as having brown or dark eyes.

By Aynott Chitty, Esq., Dedham. '86 inch and 10 lbs. allowed. Much difficulty with the men.

By Dr. J. W. J. Oswald, Rochford. 9·6 lbs. allowed. The district is, or has been, very malarious.

·8 inch and 10 lbs. allowed. These Essex reports are all rather small for the purpose. 6 black-haired men average but 5 feet 5 inches.

No.	Place or district of birth.	Class of persons observed.	$\frac{4}{5}$ No. of persons	Average height.		Naked height.	Naked weight. kilos.
				With shoes.	Without shoes.		
158.	Shambrook, North Bedfordshire	Agricultural and other outdoor labourers ; taken at random	24	5 ft. 7 in. 41	5 ft. 7 in. 41	163·0	1·6900 69·17
159.	Luton and other places in South Bedfordshire	Farm labourers, village artizans, etc., living at Harpenden, Herts. None of the upper or middle class	36	5 ft. 6 in. 36	5 ft. 6 in. 36	143·3	1·6646 60·46
160.	Bedfordshire in general	A mixture of all classes ; from various returns	10	5 ft. 7 in. 50	5 ft. 7 in. 50	163·3	1·6952 69·53
161.	Harpenden, a village or small town in Hertfordshire, and neighbourhood	Almost the whole male population of suitable age Farm labourers (included above) Labourers unspecified (ditto) Favourable occupations (ditto) ; <i>i.e.</i> , upper and middle class, smiths, masons, carpenters, railway-men, etc. Doubtful occupations : dealers, servants, some artizans, etc. Grooms Unfavourable occupations : tailors, shoemakers, painters, etc.	182 60 26 45 27	5 ft. 6 in. 29 5 ft. 5 in. 93 5 ft. 6 in. 01 5 ft. 7 in. 27 5 ft. 6 in. 47 145·1 145·8 154·8	5 ft. 6 in. 29 5 ft. 5 in. 93 5 ft. 6 in. 01 5 ft. 7 in. 27 5 ft. 6 in. 47 147·91 145·1 145·8 154·8	1·6634 1·6532 1·6557 1·6883	62·59 61·27 61·59 65·67 150·7 1·6690 1·6273 1·6540 63·81 61·45 59·41

158. By R. S. Stedman, Esq., of Sharmbrook. '91 inch and 10·5 lbs. allowed.
- | | Red | Light
3 | Brown | Black (?) | Total |
|---------------------|------|------------|------------|-----------|-----------|
| Hair | 2 | — | 6 | — | 11 |
| Eyes, Grey | — | — | 8 | 5 | 13 |
| , Brown | — | — | — | — | — |
| | | | | | Colours:— |
| Hair | Fair | Brown | Dark Brown | Black | Total |
| Eyes, Light | 3 | 8 | 7 | 1 | 19 |
| Dark Grey | 3 | 1 | 1 | — | 5 |
| " Light Brown | 1 | 3 | 3 | 1 | 8 |
| " Dark Brown | — | 1 | 2 | 1 | 4 |
| Total | 7 | 13 | 3 | 3 | 36 |
159. This is a portion of the return of Mr. Hodgson, of Harpenden. '86 inch and 10 lbs allowed. Colours:—
- | | Fair | Brown | Dark Brown | Black | Total |
|-------------|------|-------|------------|-------|-------|
| Hair | 3 | 8 | 7 | 1 | 19 |
| " | 3 | 1 | 1 | — | 5 |
| " | 1 | 3 | 3 | 1 | 8 |
| " | — | 1 | 2 | 1 | 4 |
| Total | 7 | 13 | 3 | 3 | 36 |
- These colours differ a good deal from those of Hertfordshire (161); there being more brown eyes, and less dark hair; and the relations of colour to size differ also, the fair and black men being largest.
160. '8 inch and 10 lbs. allowed.
161. This is one of the most valuable of the reports, for minute accuracy as well as for extent; the weights are given to an ounce. I owe it to Henry Hodgson, Esq., of Harpenden. 12 men are included from Hertford and Watford, sent by Mr. E. Noble Smith and Dr. Brett. They mostly belong to the upper class, which is a little deficient in Mr. Hodgson's report; so that the whole may probably be taken as a fair representation of the entire population.
- The height of heels averaged 1·1 inch; but this does not imply an equal addition to stature; I should think '84 inch a sufficient deduction for shoes, and 9·91 lbs. for clothes. Colours in 168:—
- | | Red | Fair or Lt. Brown | Brown | Dk. Brown | Very Dk. Brown | Black | Total |
|--------------------------------|-----|-------------------|-------|-----------|----------------|-------|-------|
| Hair | 4 | 20 | 24 | 40 | 9 | 11 | 108 |
| Eyes, Blue or Light Grey | — | — | 1 | 7 | 1 | 4 | 13 |
| " Dark Grey | — | — | 4 | 6 | — | 6 | 20 |
| " Light Brown | — | 1 | 5 | 10 | 1 | 9 | 27 |
| " Brown, Dk. Brown | 1 | — | — | — | — | — | — |
| Totals | 5 | 25 | 34 | 63 | 11 | 30 | 168 |

No.	Place or district of birth.	Class of persons observed.	No. of persons. N.	Average height. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes.	Without shoes.		
162.	Spitalfields, London	Men with red hair , light brown hair, etc. , brown hair , dark brown hair , very dark brown hair , black hair	5 25 34 63 11 30	5 5 5 5 5 5	5 5 5 6 7 6	106.9 147.0	1.5477 1.6752
163.	London, all parts	Silk-weavers Miscellaneous ; collected from divers reports ; from all parts of England	57	5	6.72	155.6	1.7155
164.	Nash, North Buckinghamshire	Farmers, labourers, and vil- lagers ; from several reports	13	5	8.34	147.5	65.81
165.	Witney and neighbour- hood, Oxfordshire	All labourers, except two	19	5	5.00	145.4	1.6520
166.	Oxfordshire generally	Very various ; from several re- turns	14	5	6.85	147.5	62.36
167.	Leamington, Warwick, Stratford, & Kenilworth	Townsmen, & almost all artizans of various kinds ; fairly taken The same, with 7 added ; from va- rious reports, including some upper class and picked men	27 34	5 5	6.93 7.52	149.0 154.1	1.6812 1.6952

The colours have been very carefully observed ; but the nomenclature differs from my own. I should doubtless have called some of Mr. Hodgson's "dark browns," *brown*, and some of his "blacks" *very dark brown*. The relations of colour to stature are curious.

162. By the Rev. Charles L. Corkran, City Missionary. I have allowed but half an inch and 6·9 lbs. The names of several of the men testify to their French descent.

163. ·8 inch and 10 lbs. allowed. Several of the upper or middle class, and a number of picked men, such as lunatic keepers, are included ; so that I should think the averages likely to come up to the truth, if not to exceed it. The eyes are given as light, 24 ; neutral, 9 ; dark, 24 ;—the hair, red, 2 ; light, 9 ; brown, 26 ; dark, 13·5 ; black, 6·5. The large proportion of dark eyes is noteworthy : my own observations tend to confirm it.

164. 7 of these are from a list of farmers and labourers at Nash, by John Bowman, Esq. ·84 inch and 10·1 lbs. allowed. The numbers are few, and the averages perhaps too high ; but compare the returns from Southwest Northamptonshire, the adjacent district.

165. By Augustine Batt, Esq., of Witney. 7·9 lbs. allowed. An extremely low average. That of the 17 labourers would be only 5 ft. 4·53 in. and 140·15 lbs. Eyes in 11 blue or grey, 2 hazel, 6 brown ; hair in 10 brown, 5 dark, 2 black. Witney was formerly a manufacturing town.

166. ·8 inch and 10 lbs. allowed.

167. By Dr. Carter, of Leamington. ·78 inch and 10 lbs. allowed. Heights seldom carried beyond inches. Eyes in 2 blue, 8 blueish-grey, 4 grey, 1 dark-grey, 2 hazel, 8 brown or black.

·82 inch and 10·1 lbs. allowed. This may probably be a fair sample of the population of Central Warwickshire.

No.	Place or district of birth.	Class of persons observed.	Average height.			Naked height.	Naked weight.
			No. of persons.	With shoes.	Without shoes.		
168.	Birmingham	Wire-drawers	31	5 ft. 5 in.	7 ft. 42 in.	146.7 lbs.	1·6931 kilos. 62·14
169.	Birmingham	Brass founders (13), blacksmiths (6), silversmiths (5), and engravers (2), in an ecclesiastical metal factory	26	5 ft. 7 in.	7 ft. 02 in.	141.8 lbs.	1·6829 kilos. 60·00
170.	Birmingham	Mixed: from several reports	8	5 ft. 7 in.	7 ft. 35 in.	137.9 lbs.	1·6913 kilos. 58·05
171.	Kidderminster	Mixed; but mostly employed in the carpet manufacture as overlookers, etc.	14	5 ft. 6 in.	6 ft. 82 in.	146.6 lbs.	1·6786 kilos. 62·14
172.	Stourport and West Worcestershire	Working tanners	18	5 ft. 7 in.	7 ft. 03 in.	149.3 lbs.	1·6800 kilos. 63·18
173.	West Worcestershire	Upper and middle class, in town and country	10	5 ft. 10 in.	10 ft. 1 in.	177.5 lbs.	1·7612 kilos. 75·74
174.	West and Central Worcestershire	Agricultural labourers, gardeners, smiths, carpenters; from divers reports	23	5 ft. 8 in.	14 ft. 1 in.	161.6 lbs.	1·7089 kilos. 68·73
175.	Worcestershire	Total	65	5 ft. 7 in.	8 ft. 85 in.	157.4 lbs.	1·7028 kilos. 66·86

REMARKS.

No.	
168.	By John Cornforth, Esq., Birmingham. ·8 inch and 9·7 lbs. allowed.
169.	By W. C. Aitken, Esq., Birmingham. This and the last report were both procured for me by Alfred Hill, Esq. ·8 inch and 9·5 lbs allowed. Including natives of other places, 12 blacksmiths averaged 5 feet 7·04 inches and 142·9 lbs.; 17 brass-founders, 5 feet 6·86 inches and 145·4 lbs.; 9 silversmiths and engravers, 5 feet 6·50 inches and 133·6 lbs.
170.	·8 inch and 9·9 lbs. allowed. Mr. Sargent, the well-known statistician, to whom I am much indebted, informs me that the average stature of the Birmingham volunteers is 5 feet 6½ inches.
171.	Part of a return by S. Stretton, Esq., M.R.C.S. ·77 inch and 9·6 lbs. allowed.
172.	By Joseph Rogers, Esq., Arley House. ·93 inch and 10 lbs. allowed.
173.	·8 inch and 10·5 lbs. allowed. Extracted from the preceding and following reports. Some remarkably fine men are accidentally included.
174.	·9 inch and 10·5 lbs. allowed. Partly from a friend at Orleton; partly from various other sources. The average may be too high; but if so, it is accidental.
175.	·85 inch and 10 lbs. allowed. Of 72, 45 had blue or light-grey eyes, 4 dark-grey, 1 light-hazel, 22 brown or dark eyes. The hair is comparatively dark; but the observers differ in their nomenclature. The fair men are generally tall, and the black-haired men very short.

No.	Place or district of birth.	Class of persons observed.	No. of persons	Average height.		Average weight.	Naked height.	Naked weight.
				With shoes.	Without shoes.			
176.	Shrewsbury	Workmen employed about the Infirmary, and healthy working men with slight surgical ailments	34	5 6·72		149·4	1·6753	63·22
177.	Other parts of Salop	Ditto, ditto ; part of same return	16	5 7·06		149·2	1·6840	63·13
178.	Salop, central and other parts	Miscellaneous ; very varied ; from divers reports	17	5 7·69		153·0	1·7000	64·86
179.	Knighton (border of Salop and Radnorshire), and neighbourhood	Members of a Provident Society: mostly farm labourers, country artizans, and sawyers	28	5 6·71		153·8	1·6736	65·22
180.	Salop	Total	95	5 6·94		151·3	1·6804	64·09
181.	Flintshire; mostly Hawarden and St. Asaph	Apparently a fair sample of the entire population, town and country, excepting only the highest class	35	5 6·99		158·5	1·6809	67·35
182.	Glan Ogwen, Caernarvonshire	Men with light hair Men with black hair Men with English names Slate-quarrymen ; all bearing Welsh surnames	8 11 9 32	5 8·2 5 6·2 5 8·1 5 6·78		167 157 165·4 167·36	1·7120 1·6610 1·7094 71·21 66·67 70·48	

REMARKS.

No.

176.	By W. Eddowes, Esq., then H. S., Salop Infirmary, through Dr. Henry Johnson. '8 inch and 10 lbs. allowed. About half of the men under this and the next item had surnames of Welsh type.																												
177.	By and through the same. Same allowances.																												
178.	Some of these from a report by the Rev. Dr. Rowley, Incumbent of Willey: several from Bristol and Kidderminster. '8 inch and 10 lbs. allowed.																												
179.	By Charles J. Covernton, Esq., M.R.C.S. '86 inch and 10 lbs. allowed. The race here is doubtless mainly Welsh in blood, though long Anglicised in speech. 17 of 28 bore Welsh surnames. Eyes in 85 blue, 7 grey, 2 dark grey, 11 hazel or brown.																												
180.	'82 inch and 10 lbs. allowed. Very few of the middle class are included.																												
181.	By Dr. Moffat, and valuable accordingly. '84 inch and 10 lbs. allowed. Colours in 42 :—																												
	<table> <thead> <tr> <th>Hair</th> <th>Red</th> <th>Fair</th> <th>Brown</th> <th>Dark</th> <th>Black</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Eyes, Blue, Grey, or Light</td> <td>2</td> <td>7</td> <td>3</td> <td>8</td> <td>3</td> <td>23</td> </tr> <tr> <td>, Brown or Dark</td> <td>—</td> <td>3</td> <td>1</td> <td>7</td> <td>8</td> <td>19</td> </tr> <tr> <td>Total</td> <td>2</td> <td>10</td> <td>4</td> <td>15</td> <td>11</td> <td>42</td> </tr> </tbody> </table>	Hair	Red	Fair	Brown	Dark	Black	Total	Eyes, Blue, Grey, or Light	2	7	3	8	3	23	, Brown or Dark	—	3	1	7	8	19	Total	2	10	4	15	11	42
Hair	Red	Fair	Brown	Dark	Black	Total																							
Eyes, Blue, Grey, or Light	2	7	3	8	3	23																							
, Brown or Dark	—	3	1	7	8	19																							
Total	2	10	4	15	11	42																							
182.	There is no trace here of the tall Strathclyde Welshmen, said by Lluyd to have colonised North-east Wales. The breed would seem to gain in stature by an English cross. By the Rev. John Price, Vicar of Bangor. A perfectly fair sample. 24 out of 34 are marked as dark-haired. '93 inch allowed.																												

No.	Place or district of birth.	Class of persons observed.	to No. <i>bis.</i>	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs. in.	Naked height. meters.	Naked weight. kilos.
181.	Anglesey	Labourers	9	5 7.66		167.6	1.6967	71.21
182.	Caernarvonshire	Quarrymen and labourers	26	5 8.12		159	1.7050	67.35
183.	North Wales	Mostly leadminers and stone-masons; from divers reports	22	5 6.72		150.2	1.6736	63.50
184.	North-east Cardiganshire	Leadminers employed in the Lisburne, Cwm Ystwith, Goginan, West Cwm Erfin, and Cefn Brwyno mines	328	5 7.30		155.22	1.6850	65.41
185.	Ditto, ditto;	Clerks, masons, carpenters, carters, and labourers employed about the same mines Total of all occupations Ditto, <i>blue</i> or <i>grey eyes</i> , and red or sandy hair Ditto, ditto, and fair or light-brown hair	42	5 7.01		145.05	1.6774	61.25
		Ditto, ditto, and brown hair Ditto, ditto, and dark brown hair Ditto, ditto, and black hair Ditto, with <i>brown</i> , <i>hazel</i> , or <i>black eyes</i> , and red, etc., hair Ditto, ditto, and fair, etc., hair	370	5 7.24		154.06	1.6835	64.95
			44	5 7.60		153	1.6926	64.41
			50	5 7.41		155.7	1.6878	65.67
			71	5 6.77		151.8	1.6715	63.95
			20	5 6.94		150.4	1.6759	63.27
			59	5 7.57		151.3	1.6919	63.68
			8	5 6.30		158.2	1.6596	66.81
			14	5 8.93		167.8	1.7264	71.12

REMARKS.

No.	
181 {	By T. Williams, Esq., of Watchet, through John Bowman, Esq. The men were purely Welsh by names and language; but the averages are rather high notwithstanding, and I suspect that some small men have escaped.
182 }	·9 inch and 10·5 lbs. allowed.
183.	·87 inch and 10·2 lbs. allowed.
184 {	These returns, which I owe to Henry Taylor, Esq., Superintendent of the Mines, through the introduction of Philip John Worsley, Esq., are perhaps the most valuable of all the contributions I have received. They embrace the whole mining population (of suitable age) of an extensive district, the elevated moorland and pastoral country about the upper valleys of the Ystwith and Rheidol. The evidence of the surnames indicates that the population is, with very few exceptions, of purely Welsh origin. Though the district is included in South Wales, I believe the dialect and traditional history indicate a community of blood with the North Welsh. The measurements are given to a quarter-inch, the weights to a pound. I allow 1 inch for shoes, and 11 lbs. for clothes, in the case of the miners, and 1 inch and 10 lbs. in the other men.
185)	It may be that a certain extent of selection takes place in the class of lead-miners, some weakly or puny children being excluded from the employment as unfit for it; but, allowing for this, these miners are probably a tolerably fair sample of a purely Welsh population.
	They are not small men : as many as 12 of the 370 exceeded 6 feet (in their shoes), but as a rule they are of moderate stature, and weigh well in proportion to their height.
	84 of them, or upwards of 22 per cent, would be excluded by the ordinary military standard of 5 feet 5 inches ; but at the usual ages of enlistment this percentage would probably exceed 40.
	The colours have been carefully taken ; but the nomenclature must differ a little from my own. Of Mr. Taylor's "black-haired" and "brown-haired" men, many would certainly have been called "dark brown-haired" by myself ; and some of his "red or sandy-haired men" I should have called "fair", and some of his fair or light-brown-haired I should probably have called "brown".
	The relations between stature and colour are in the main, but not exactly, what might have been expected. The fair-haired men average highest in both height and weight, and the dark-brown are by much the smallest, but the black compete with the red for the second place. The combination of black

No.	Place or district of birth.	Class of persons observed.	Average height. ft. in.	Average weight. lbs. in.	Naked height. meters.	Naked weight. kilos.
		Persons. No.	With shoes.	Without shoes.	lbs.	meters.
186.	Vale of Teivy, near Newcastle-in-Emlyn	Ditto, ditto, and brown hair Ditto, ditto, and dark brown hair Ditto, ditto, and black hair Half farmers, the rest farm-labourers, etc.	21 11 68 29	5'7·45 5'5·41 5'7·38 5'8·54	158·0 147·1 153 175·9	1·6888 1·6370 1·6871 1·7190
187.	Newcastle in Emlyn (small town), and neighbourhood	Professional men, farmers, shopkeepers, and artisans chiefly	25	5'8·70	163·9	1·7256
188.	Neath Valley, Glamorgan; and South Wales generally	Colliers (24) and others (9) employed about Pwllfaron Colliery, Glyn Neath	33	5'6·60	155·9	1·6697
189.	Abercwmiais, South Brecknockshire, and neighbourhood	Rural population ; all classes	14	5'7·66	159·1	1·6977
190.	South Wales (including Monmouthshire)	All classes in pretty fair proportion, except agriculturists ; from divers reports	52	5'7·03	150·1	1·6794

hair with light eyes ranks high in the scale, as in many other districts; in Wales it belongs to what may be called the Kymric or Belgic type, as distinguished from the Iberian,* to which the generally small men, with dark eyes and skins, and dark but seldom coal-black hair, may be assigned.

Dr. David Davies, of Bristol, procured this return from a friend in Cardiganshire. ·9 inch and 11·9 lbs. allowed. Of 20, only 4 had dark eyes; the hair was red in 3, light in 10, dark in 6, black in 1 (the smallest man). These are light colours for a Welsh district. The surnames are all Welsh; but the district was in the middle ages colonised by Flemings, who may have melted down into the native population.

By the Rev. John Price Jones, Vicar of Newcastle. ·8 inch and 10·4 lbs. allowed. Colours in 41 :—

	Hair	Red	Light	Brown	Dark	Black	Total
Eyes. Grey or Blue	4		9		9	1	24
" Brown		—		1	8	8	17
Total.....	4		9	2	17	9	41

The same large bulky breed of men as in the preceding report, though the colours are darker.

By W. Eassie, Esq., F.G.S., etc. ·9 inch and 10·5 lbs. allowed. The surnames of the men, with very few exceptions, are purely Welsh.

By the Rev. Garnons Williams, rector of Abercwmlais. All the men of fit age that could be met with in a small country parish. ·86 inch and 10·6 lbs. allowed.

·83 inch and 10·1 lbs. allowed. The greater part were inhabitants of or visitors to Bristol, included in my own reports. Colours in 50 :—

	Hair	Red	Light	Brown	Dark	Black	Total
Eyes, Light	3·5	5·5	7	5·5	5	1·5	23
," Neutral	—	1	4·5	3	5	·5	9
," Dark	1		—	5	6·5	5·5	18
Total	4·5	6·5	16·5	15	7·5	·5	50

* Dr. David Davies, the best native observer, agrees with me in acknowledging these two principal types among the Welsh.

No.	Place or district of birth.	Class of persons observed.	No. of persons	Average height.		Naked height.	Naked weight.
				With shoes.	Without shoes.		
191.	South Wales (including Monmouthshire)	Patients applying at Bristol Infirmary; mostly with slight ailments	40	5 ft. 5 in.	5 ft. 6 in.	1.42.2	60·10 20
192.	Romney Marsh, Kent	A fair mixture of all classes, in a mainly pastoral district, obtained at cricket-matches and on farms	88	5 ft. 7 in.	5 ft. 9 in.	1.54·9	65·72
		Included above—					
		Fair men	7	5 ft. 8 in.	5 ft. 3 in.	1.59·6	67·85
		Brown men	28	5 ft. 8 in.	5 ft. 2 in.	1.57·5	66·90
		Dark-brown men	15	5 ft. 8 in.	5 ft. 1 in.	1.56·6	66·50
		Very dark-brown men	20	5 ft. 7 in.	5 ft. 7 in.	1.52·4	64·58
		Mixed; from various returns	12	5 ft. 7 in.	5 ft. 7 in.	1.45·5	61·95
		Ditto, ditto	12	5 ft. 8 in.	5 ft. 13 in.	1.57·0	67·12
193.	Towns in Kent						
194.	Kent; mostly, if not all, country born						
196.	Great Bookham, near Leatherhead, Surrey	Rural population; all classes Of these were labourers on one farm	30	5 ft. 7 in.	5 ft. 3 in.	1.58·0	67·13
197.	Brighton	Fishermen	14	5 ft. 6 in.	5 ft. 8 in.	1.54·6	65·58
198.	Ditto	Fish salesmen	13	5 ft. 6 in.	5 ft. 8 in.	1.56·4	66·17
			16	5 ft. 8 in.	5 ft. 25 in.	1.56·2	66·08

191. Observed by myself. ·79 inch and 9·7 lbs. allowed.
192. By Dr. F. Cock, of London, F.A.S.L., with some additions by W. D. Walker, Esq., of Honeychild Manor. Has every appearance of a fair sample. ·87 inch and 10 lbs. allowed. The colours of 70 are, according to Dr. Cock:—

Hair	Fair	Brown	Dark Brown	Black or very Dark	Total
Eyes, Blue or Grey	6	21	7	7	41
, Hazel, Brown, etc. ...	1	7	8	13	29
Total	7	28	15	20	70

The fair men are the largest, the black the least. Dr. Cock, himself a native of, and familiar with, the district, was surprised, on actual enumeration, at the large proportion of dark eyes and hair. The district is peculiar in character, being flat and agreeish, and the race is believed to have been little mixed for centuries.

193}{
194}{

196. By A. Stedman, Esq., M.R.C.S., Great Bookham. An interesting return. ·93 inch and 10 lbs. allowed. Of 38, the eyes are as follows:—Blue, light grey, 19; grey, 4; dark grey, 1; light hazel, 4; hazel, 8; dark hazel, 2. The hair is marked dark or black in the majority; but Mr. Stedman's nomenclature differs much from mine. The excess of dark colours is among the labourers especially. The average circumference of the head is small: in 30, none of whom were of the upper class, it was 22·02 inches, which is much below the average of the north or west of England.

197}{
198}{ These two returns are by R. P. B. Taaffe, Esq., M.D., of Brighton. ·85 inch and 10·5 lbs. allowed. The fishermen are said to be a separate caste, and a Spanish origin has been ascribed to them. Most of them are returned as dark-haired. I do not know how far the fish-soldiers are the same people: their surnames seem to differ.

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked height.	Naked weight.	
			With shoes.	Without shoes.			
		No. of persons.	ft. in.	ft. in.	lbs.	meters.	kilos.
199.	Hurst (near Lewes), Lewes, Uckfield, etc., Sussex	Excavators and other labourers for the most part	51	5 7.72	1.7211	67.35	32
200.	Swallowfield, South Berkshire, and neighbourhood	Rural population of all classes, taken indiscriminately	65	5 6.98	1.7023	67.35	32
201.	Itchen-ferry, near Southampton, fishing village	Fishermen, mariners, and a few tradesmen and artizans	26	5 7.73	1.6990	68.48	32
202.	Southampton and Hampshire in general	Miscellaneous population of the town, natives of all parts of Hampshire	14	5 7.94	1.7063	65.95	32
203.	Burley, New Forest	Woodmen or forest labourers	16	5 6.30	1.6850	62.50	32

REMARKS.

- No.
199. By C. O. Groome Napier, Esq., F.A.S.L. From the class of occupations to which most of the men belong, the average is probably a high one for the county at large.
200. Except 6 men from my own tables, who yield almost exactly the same average as the rest, the whole are from the report of Nathaniel Crisp, Esq., of Swallowfield, which is very careful and exact, and probably yields a fair average. The men were weighed without shoes, and I have allowed 8·4 lbs. for clothes. Hair and eyes in 42 :—
- | | Hair | Light | Brown | Dark | Black | Total |
|--------------------|------|-------|-------|------|--------|-------|
| Eyes, Blue or Grey | 9 | 7 | 8 | 7 | —
2 | 24 |
| " Brown | 3 | 6 | — | — | 18 | |
| Total | 12 | 13 | 15 | 2 | 42 | |
- Mr. Crisp remarks that wages are good and employment pretty constant in the district, but that milk is a scarcity. Ethnologically, Berkshire is a very "Saxon" county, but Swallowfield is not, probably, the most Saxon part of it. It lies near Silchester.
- I owe this return to the kindness of Professor Parkes, of Netley. The Itcheners are a community very little given to intermix their blood with their neighbours; but there is reason to suspect some admixture from the Channel Islands which may have modified the complexions. The heights are pretty exact; the weights mostly only approximate, reputed or conjectural. I allow ·88 in. and 12·15 lbs. for shoes and clothes.
- Eyes: Light in 11; Brown or Black in 15.
 Hair: Red in 2; Light, 4; Brown, 10; Black (dark ?), 9.
- Dr. Bond, of the Hartley Institute, Southampton. ·8 inch and 10 lbs. allowed. The eyes and hair are generally light in Southampton and the neighbouring district of Meon.
- By Philip A. Smith, Esq., now one of H. M. Judges in Jamaica. 9·3 lbs. for clothes. This return is very interesting, the population being peculiar in occupation, and quite stationary as to occupation and place.
- Eyes: Light in 9; dark grey, 2; brown, 5. Hair: Brown in 9; dark, 6; black, 1. The foresters have been thought to differ ethnologically from the rest of Hampshire men, being less Saxon.

No.	Place or district of birth.	Class of persons observed.	Average height.		Average weight.	Naked height.	Naked weight.	
			% persons in N.	With shoes. ft. in.	Without shoes. ft. in.	lbs. ?	meters. 1.6900	kilos. ?
204.	Ringwood, Hants	Miscellaneous ; partly agricultural	18	5 7·34	5 7·25	162·2	1·7091	68·71
205.	Hampshire	Attendants on the insane in county asylum	13					
205. <i>bis.</i>		Miscellaneous, town & country	23	5 7·10		148·6	1·6853	62·86
206.	Hampshire	General averages	110	5 7·46		?	1·6934	
207.	Wooton Bassett and neighbourhood, North Wilts	A fair sample of the entire population of a village and rural district	57	5 7·86		162·14	1·7002	68·94
208.	Wiltshire ; all parts		45	5 7·60			156·0	66·22
209.	Wiltshire ; especially the North-west part	Miscellaneous ; but not many of middle class ; from divers reports, but at least half from my own Bristol tables	47	5 6·95			149·9	63·45
210.	Gloucester City and Cheltenham town	Men with slight ailments, applicants at Bristol Infirmary	45	5 7·01			145·6	61·50
211.	Rockhampton and neighbourhood, Vale of Berkeley, Gloucestershire	Miscellaneous ; from several reports	17	5 6·85			153·4	65·04

REMARKS.

No.																															
204.	By Dr. Dyer, of Ringwood. I allow .84 inch for shoes. 8 men weighed 153 lbs. on average, but several of the 8 were tall.																														
205.	By Dr. Manley, Medical Superintendent. 10·7 lbs. allowed.																														
205. <i>bis.</i>	Abstracted from other reports. ·8 inch and 10 lbs. allowed.																														
206.	·83 inch allowed.																														
207.	By Herbert Cooper, Esq., Wootton Bassett. A very good report. The district is elevated, with a rather cold but healthy climate; the physical characteristics commonly esteemed, Saxon or Frisian, predominate in the people. I allow ·96 inch and 10·4 lbs. for shoes and clothes. Colours in 58:—																														
	<table> <thead> <tr> <th>Hair.....</th> <th>Reddish Eyes, Blue or Grey (1 Dk. Grey)</th> <th>Light Brown Eyes, etc.</th> <th>Dark Brown Eyes, etc.</th> <th>Black</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>1</td> <td>20</td> <td>12</td> <td>2</td> <td>35</td> </tr> <tr> <td>,</td> <td>1</td> <td>2</td> <td>15</td> <td>5</td> <td>23</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td>2</td> <td>22</td> <td>7</td> <td>58</td> </tr> </tbody> </table>	Hair.....	Reddish Eyes, Blue or Grey (1 Dk. Grey)	Light Brown Eyes, etc.	Dark Brown Eyes, etc.	Black	Total	20	1	20	12	2	35	,	1	2	15	5	23							Total		2	22	7	58
Hair.....	Reddish Eyes, Blue or Grey (1 Dk. Grey)	Light Brown Eyes, etc.	Dark Brown Eyes, etc.	Black	Total																										
20	1	20	12	2	35																										
,	1	2	15	5	23																										
Total		2	22	7	58																										
208.	Most of the blacks are doubtless only very dark browns, as really black hair is rather rare in this part of Wiltshire. There is nothing remarkable in the relations of colour and stature. ·8 inch and 10 lbs. allowed.																														
209.	By myself. ·8 inch and 10 lbs. allowed.																														
210.	·8 inch and 10 lbs. allowed. Mostly inhabitants of Bristol, and to be compared with No. 216.																														
211.	By Rev. W. Unett Goates, Incumbent of Rockhampton. ·9 inch and 10 lbs. allowed.																														

No.	Place or district of birth.	Class of persons observed.	Average height.			Naked height.	Naked weight. kilos.
			No. of persons in N.	With shoes. ft. in.	Without shoes. ft. in.		
212.	Wapley, near Sodbury, Gloucestershire	Farmers with their labourers	13	5' 8·34		178·0	1.7129
213.	Hambrook and Winterbourne, South Gloucestershire	Farm-labourers Agricultural population—total (2 added)	13 45	5' 6·94 5' 7·43		165·7 164·7	1.6784 1.6908
214.	Westerleigh and neighbourhood, South Gloucestershire	Colliers	27	5' 6·92		154·9	1.6753
215.	Downend, near Bristol, and South Gloucestershire in general	Colliers, about half perfectly healthy; the rest with trivial ailments Of these, hereditary colliers Ditto, not hereditary	55 35 20	5' 7·47		145·9	1.6893
216.	South Gloucestershire	Miscellaneous; but very few of middle class	90	5' 7·13		147·2 143·7 150·9	1.6880 1.6816 1.6868
217.	Parish of Bitton, South Gloucestershire	Labourers; mostly in a chemical factory at Netham, near Bristol	33	5' 7·71		146·8	1.6977
218.	Kingswood, parish of St. George, and other north & east suburbs of Bristol	Miscellaneous; more varicose than the last, but half chemical labourers	70	5' 6·76		143·4	1.6748

REMARKS.

No.	
212.	By Mr. J. Adams, farmer, of Wapley. .94 inch and $10\frac{1}{2}$ lbs. allowed.
213.	By Edward Crossman, Esq., M.R.C.S., Hambrook. .9 inch and 10 lbs. allowed. .9 inch and 10 lbs. allowed. 7 farmers averaged 5 feet 8.70 inches and 170 lbs. I believe all the three small returns, of which this is a summary, to have been taken quite fairly.
214.	By Messrs. Hewitt and Co., coal-owners, through Mr. Crossman. 1 inch and 10 lbs. allowed.
215.	By D. E. Bernard, Esq., M.R.C.S., Bristol, with a few by Mr. Crossman. 1 inch and 10 lbs. allowed. All these colliery returns are taken with perfect fairness.
216.	.8 inch and 10 lbs. allowed. Almost all inhabitants of Bristol, from my own reports.
217.	.91 inch and 9.8 lbs. allowed. The chemical labourers by P. J. Worsley, Esq.
218.	.86 inch and 9.9 lbs. allowed. The Netham men by Mr. Worsley. The contrast between the Bitton and the St. George's men is noteworthy and curious, as the two parishes march with each other. I am pretty certain that the difference represented does actually exist. Bitton is more rural, St. George's more mining and suburban.

REMARKS.

No.

219.

·8 inch and 10 lbs. allowed.

220. My own report. ·8 inch and 10 lbs. allowed, with slight variations in the several trades. The materials were mostly gotten in the workshops of the several trades, and no selection was made in any case; so that the averages are as fair as the paucity of numbers would allow. I have to acknowledge the assistance of Messrs. W. L. Carpenter, P. J. Worsley, W. Terrell, H. Derham, A. Price, A. Woodward, Wait, Wills, Baker, Fry, Grace, Lucas, Temple, Herapath, Trapnell, and others.
The occupation of potters is generally hereditary.
The clickers are a superior kind of shoemakers, who work standing.

No.	Place or district of birth.	Class of persons observed.	N. of persons. N.	Average height. ft. in. With shoes.	Average height. ft. in. Without shoes.	Average weight. lbs. 5·97	Naked height. meters. 1·6766	Naked weight. kilos. 65·00
221.	Bristol	Volunteers in the Bristol detachment of the Royal Naval Reserve	62					
222.	Elsewhere	Volunteers in the Bristol detachment of the Royal Naval Reserve	43					
223.	Bristol and elsewhere	Volunteer Riflemen Of whom officers and upper class	554 45					
		Middle class	218					
		Lower class	291					
223.	Bedminster, <i>bis.</i> Bristol	of Colliers, all hereditary	20	5 6·30			1·56·2	1·65·96
224.	Bath, city	Miscellaneous ; chiefly artisans living in Bristol ; some professional men	20	5 6·16			1·38·6	1·66·20
225.	Pill, Pilots' Village, near Bristol, Somerset	Seamen in the Naval Reserve	14			5 6·38	1·59·4	1·6870
226.	East (or North-east) Somerset	Miscellaneous ; almost all artisans and labourers, living in Bristol	87	5 6·95			1·46·5	1·6812

REMARKS.

No.																																									
221.	By Dr. G. Willes, R.N., surgeon superintending the corps, and Captain Smith, R.N., of the Bristol Local Marine Board. 10 lbs. allowed.																																								
222.	By Dr. G. Willes, R.N., surgeon superintending the corps, and Captain Smith, R.N., of the Bristol Local Marine Board. The Naval Reserve are to some extent picked men, unsound and ill-formed men, and even some very short men, being rejected. I have therefore not thrown the Bristolian men into the general average for the city. The strangers show a marked superiority over the native Bristolians.																																								
223.	For this return I have to thank Captain A. M. Jones, Adjutant of the Corps. The division into middle and lower classes, so called, was made merely by separating certain companies, understood to be wholly or mainly composed of artizans, from the rest. The separation is therefore a very rough one. In this, as in all the other returns, men below 23 years of age are excluded. Though there is no minimum standard, it would seem that the artizans in the rifle corps must average an inch or more in stature over the class from which they are taken.																																								
223. <i>bis.</i>	By J. R. Bennett, Esq., Bedminster. 1 inch and 10 lbs. allowed. The ancestors of many of these men have been colliers for several generations. Colours in 21 :—																																								
	<table> <thead> <tr> <th></th> <th>Hair</th> <th>Eyes, Light</th> <th>Eyes, Neutral</th> <th>Eyes, Dark</th> <th>Brown</th> <th>Fair</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Red</td> <td>—</td> <td>—</td> <td>—</td> <td>7</td> <td>1</td> <td>—</td> <td>9</td> </tr> <tr> <td>" Neutral</td> <td>—</td> <td>1</td> <td>—</td> <td>6</td> <td>—</td> <td>—</td> <td>7</td> </tr> <tr> <td>" Dark</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> <td>4</td> <td>1</td> <td>5</td> </tr> <tr> <td>Total</td> <td>—</td> <td>—</td> <td>—</td> <td>1</td> <td>1</td> <td>13</td> <td>21</td> </tr> </tbody> </table>		Hair	Eyes, Light	Eyes, Neutral	Eyes, Dark	Brown	Fair	Total	Red	—	—	—	7	1	—	9	" Neutral	—	1	—	6	—	—	7	" Dark	—	—	—	—	4	1	5	Total	—	—	—	1	1	13	21
	Hair	Eyes, Light	Eyes, Neutral	Eyes, Dark	Brown	Fair	Total																																		
Red	—	—	—	7	1	—	9																																		
" Neutral	—	1	—	6	—	—	7																																		
" Dark	—	—	—	—	4	1	5																																		
Total	—	—	—	1	1	13	21																																		
224.	.76 inch and 9·6 lbs. allowed. Mostly from my own observations.																																								
225.	By Dr. G. Willes and Captain Smith. 10 lbs. allowed.																																								
226.	.8 inch and 10 lbs. allowed. Almost all from my own observations.																																								

No.	Place or district of birth.	Class of persons observed.	% persons per cent.	Average height. With shoes.	Without shoes.	Average weight. ft. in.	lbs. ft. in.	Naked height. meters.	Naked weight. kilos.
227.	East (or North-east) Somerset	Men with slight ailments or injuries, applicants at Bristol Infirmary	61	5 7.52				1.6957	6277
228.	Wrington (North Somerset), and neighbourhood	The members of two friendly societies, consisting of agricultural labourers, small farmers, and the artizans of a rural district A. Farmers B. Agricultural labourers and gardeners C. Artizans, etc.	46	5 6.94				1.6800	6486
229.	Wookey (near Wells) and neighbourhood	Inhabitants of the village of Wookey; labourers, masons, carpenters, and papermakers	22			5 6.33		1.476	1.6659
230.	Mid or South Somerset	Miscellaneous, but none of the upper class; labourers and artizans (especially shoemakers), living in Bristol	43	5 7.06				1.390	1.6840
231.	Mid or South Somerset	Men with slight ailments or injuries, applicants at the Bristol Infirmary	31	5 6.01				1.375	1.6573

REMARKS.

- No.
227. ·8 inch and 10 lbs. allowed. Observed by myself. Many were inhabitants of Bristol, but many dwelt in neighbouring rural districts.
228. By Dr. Horace Swete, of Weston-super-Mare. I allow ·84 inch for shoes, and by Dr. Swete's direction only 7 lbs. for clothes; these allowances are slightly varied in the subdivisions. The men are divided pretty equally into light-haired or "sandy," and dark-haired; the former are on an average about 1 inch taller and 11 lbs. heavier than the latter.
- The return must give a very fair idea of the mass of the population, excluding only the gentry and the larger farmers. The district is half pastoral, half agricultural. Employment is regular, but wages rather low; animal food little used by the labourers, and milk, as is often the case in dairy districts, is seldom procurable.
- Ethnologically, this is one of the less Celtic parts of Somerset.
229. By Mr. S. Gooden, carpenter, of Wookey. A very careful and minutely accurate return. 7·2 lbs. allowed for clothes. The colours are given as follows:—
- | | Hair | Fair | Brown | Dark Brown | Black | Total |
|-----------------|------|------|-------|------------|-------|-------|
| Eyes, Blue..... | 3 | 6 | 2 | 4 | 15 | |
| " Grey..... | 1 | 1 | 1 | 1 | 4 | |
| " Brown..... | — | 2 | 1 | — | 3 | |
| Total | 4 | 9 | 4 | 5 | 22 | |
- The fair men are by much the tallest and heaviest; the black men very short. The great preponderance of blue eyes is not accidental. At the neighbouring village of Cheddar, similarly situated at the foot of the limestone range of Mendip, I found 40 light, 9 neutral, and 9 dark eyes.
- From my own observations. ·8 inch and 10 lbs. allowed.
230. By myself. ·8 inch and 10 lbs. allowed. These also were all inhabitants of Bristol. 29 shoemakers,
231. half in this and half in the last lot, averaged 5 feet 6·42 inches and 132·1 lbs.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes.	Average height. Without shoes.	Average weight. lbs. in.	Naked height.	Naked weight. kilos.
232.	Langport (South Somerset) and neighbourhood	A mixture of all classes, from a small town and surrounding dairy district in the southern part of the plain of Mid Somerset	20	5' 7·17		156·9	1·6863	66·63
233.	Bishop's Lydeard, West Somerset	Yeomen and farmers	18	5' 9·33		168·5	1·7384	71·21
234.	West Somerset in general	Labourers and artizans; fair sample of lower class	27		5' 5·96		1·6763	
235.	Taunton & West Somerset	Men with slight ailments or injuries, applicants at Taunton Hospital	41		5' 5·05	133·4	1·6532	57·15
236.	Taunton & West Somerset	As the last	20	5' 5·62			1·6474	58·74
237.	West Somerset	Applicants, as above, at Bristol Infirmary	40	5' 7·30			1·6900	64·77
238.	West Somerset	Cornporters, labourers, and artizans, living in Bristol	78	5' 6·95			1·6812	63·18
239.	Somerset (all parts)	Summary of Nos. 224, 225, 226, 230, 238	242	5' 6·91			1·6802	61·63
240.	Somerset (all parts)	Summary of Nos. 227, 231, 237	132	5' 7·10			1·6850	62·36

REMARKS.

No.	
232.	By John Prankerd, Esq., of Langport. I allow .82 inch and 10 lbs. for shoes and clothes. Colour of eyes in 25—14 blue or grey, 2 neutral, 9 hazel or brown ; of hair, in most, rather light than dark brown. Such colours indicate, I believe, a large proportion of Saxon blood. Mr. Prankerd thinks there is a notable difference in physique, as well as in dialect, between the men to the east and to the west of the river Parret, and that the latter are inferior in size to the former, who have more of what he conceives to be the Saxon type.
233.	By E. Phillips, Esq., M.R.C.S., Bishop's Lydeard, who thinks the sample a fair one of the class. .93 in. and 11.5 lbs. allowed.
234.	Collected near Taunton by O. Malet, Esq.
235.	By Dr. Edward Liddon, of Taunton, to whom I owe also a return from the Taunton prison. 7.4 lbs. allowed.
236.	By Dr. Gibson, formerly House Surgeon to the Taunton Hospital. .8 inch and 9.7 lbs. allowed.
237.	By myself. .8 inch and 10 lbs. See the commentary for an explanation of the discrepancy between the several returns from West Somerset.
238.	By myself. .8 inch and 10 lbs. The west countrymen fulfil chiefly the more laborious occupations in the city. Very little difference in the West Somerset reports between Taunton and countrymen.
239.	By myself. .8 inch and 10 lbs. Dark eyes prevail most in the eastern division, dark hair in the western, the middle division is intermediate in both respects.
240.	By myself. Same allowances.

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked weight.
			No. of persons	Average weight.	
241.	Gillingham, Dorset, near Wilts and Somerset boundary	Farmers, labourers, and others, of old local descent	28	5 ft. 7·16 in.	1·6850 kilos.
242.	Bridport, Dorset	Mixed town population, selected for old local descent	17	5 ft. 6·19 in.	1·6620
243.	North-east Devon : two districts (Sandford and Witheridge)	Purely rural population; mostly farm labourers	33	5 ft. 6·80 in.	1·6748
244.	North Devon	Mixed ; some of upper class ; almost all <i>inhabitants</i> , but few natives, of towns ; from several reports, but mostly from my own, collected in Bristol	65	5 ft. 7·57 in.	1·6964
245.	North Devon	Mixed; but all of the lower class : persons applying at the Bristol Infirmary or other Hospitals, from slight accidents or trivial maladies	40	5 ft. 6·35 in.	1·6660
246.	South Devon (excluding Exeter)	Mixed, mostly inhabitants of towns ; from sundry reports	49	5 ft. 7·25 in.	1·6888
					64·40

241. By Dr. E. J. Miles, of Gillingham, through whom also other reports were obtained. Some other Dorset men included, who do not, however, affect the averages notably. ·86 in. and 10 lbs. allowed. Colours in 28 :—
- | Hair | Red | Light | Brown | Dark | Black | Total |
|------------------------|-----|-------|-------|------|-------|-------|
| Eyes, Blue, Light Grey | 1 | 5 | 6 | 4 | 3 | 19 |
| , Neutral..... | — | 1 | — | 3 | — | 4 |
| „ Brown | — | — | 1 | 1 | 3 | 5 |
| Total..... | 1 | 6 | 7 | 8 | 6 | 28 |
- These proportions are curious, but agree pretty nearly with my own observations. Black hair is very common. The whole neighbourhood, lying south-west of *Mere*, a Saxon boundary, probably retained its aboriginal population but little crossed.
242. By the Rev. J. Lettis Short, of Sheffield, author of the reports from that town. ·79 inch allowed. Grey eyes and dark brown hair prevail, with low brows; aquiline noses rare. Heads of good size (circumference 22·65 inches).
243. By Mr. Treble, for C. B. Cornish-Browne, Esq., of Sandford. ·9 inch and 10 lbs. allowed. Eyes mostly grey; hair in 39—2 red, 7 light, 12 brown, 12 dark brown, 6 black. The light and brown men almost all from Sandford, and the black from Withbridge, which is near the Keltic district of Exmoor. The dark brown men are the largest. The great weight, in comparison with their apparent size, is characteristic of the Devon peasantry. “They are little men, but they weigh like lead,” said to me a local anthropologist.
244. Chiefly by myself. ·82 inch and 10 lbs. allowed. The weight is depressed by the presence of a large number of tailors (from the Bristol report), and the height elevated by that of several policemen and professional men.
245. Mostly by myself: some at Taunton Hospital by Drs. Liddon and Gibson. ·8 inch and 10 lbs. allowed.
246. Mostly by myself; but there is included part of a report by Dr. C. Pridham, of Paignton, consisting of country folk, miners and seamen. ·8 inch and 10 lbs allowed.

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked height.	Naked weight.			
			ft. in.	With shoes.	ft. in.	Without shoes.	lbs.	meters.	kilos.
247.	Exeter	Ditto, ditto	14	5 6·27	27	5 6·21	142·6	1·6624	60·14
248.	South Devon, with Exeter	Mixed, but all lower class; persons applying at Bristol Infirmary & Plymouth Hospital							
249.	Brixham, Torbay	Fishermen and seamen	15	5 6·40			?	1·6672	?
250.	Devon, especially the neighbourhood of Tavistock	Miners employed near Tavistock	32	5 8·06			164·3	1·7043	69·53
251.	Cornwall; all parts	Ditto, ditto	28	5 8·25			166·3	1·7091	70·43
252.	Fowey, Tywardreath, and neighbourhood, Cornwall	Miners (tin, etc.)	22				5 8·90	163·7	69·25
253.	Ditto, ditto	Mixed, but chiefly labourers: some tradesmen	20				5 8·13	166·0	70·30

REMARKS.

No.

247.	As the last : observed in Bristol.	
248.	By myself, with additions by Dr. G. Miles, of Plympton. •8 inch and 10 lbs.	
249.	By the Rev. J. R. Nankivell, Chaplain to Torbay Mission to seamen, with additions by myself. •8 inch allowed. The Brixhamites, unlike many communities of fisherfolk, seem to be, so to say, indigenous. They are a rather small, dark-haired race.	109
250}	This and the next report (251) are by the Rev. A. N. Blatchford, of Bristol. 1 inch and 11 lbs, allowed. The men were taken fairly ; but it is clear that the miners as a class surpass the agricultural population of Devon. The people about Tavistock no doubt approach the Cornish in type ; nevertheless, the latter, as here represented, have slightly the advantage in size, and are also darker in colour of both eyes and hair. Compare these and the next returns with those from Wanlockhead, Leadhills, Allenheads, Wharfedale, and Cardiganshire (Nos. 52, 53, 89, 184-5).	
251}	Dr. Barham, of Truro (Children's Employment Com. Report), found the following average weights in several squads of miners :—Devon, 153.5 lbs. ; East Cornwall, 161.1 lbs. ; Central Cornwall, 157.6 lbs. ; West Cornwall, 151.2 (these last were all weighed on coming up from the pit, which makes a difference of about 7 lbs. !) The whole number of men weighed was 242, the ages were from 20 to 30, and would probably yield a slightly lower average than 23 to 50, the ages in Mr. Blatchford's and Dr. Davis's reports.	
252.	This and the next report are by Dr. Arthur Davis, of Fowey. In some instances, Dr. Davis says, he accepted the statements of the men as to their heights, and the average has perhaps been unduly raised thereby. The weight is generally exact to a pound. 11 lbs. allowed for clothing.	
253.	As the last. In the two reports : Eyes—11 blue, 10 grey, 6 dark grey, 15 brown. Hair—3 red, 9 fair, 12 brown, 9 dark, 9 black. There is no particular relation of stature to colour, when Dr. Davis's and Mr. Blatchford's returns are thrown together.	

No.	Place or district of birth.	Class of persons observed.	Average height.		Average weight.	Naked height.
			No. of persons.	With shoes.	Without shoes.	
254.	St. Stythians, West Cornwall	Mostly miners and labourers, being the choir, Sunday-school teachers, and adult class of the parish	23	5 ft. 7·92 in.	5 ft. in.	161·1 lbs.
255.	Cornwall in general	A mixture of all classes, but especially miners and engine-tenders, from divers reports	21	5 ft. 7·34 in.	160·7	1·6900 meters.
256.	Penryn and neighbourhood	4 merchants ; 19 men employed in the quarries and stone works of R. Hosken, Esq. Workmen alone	23	5 ft. 8·42 in.	158·8	1·7155 kilos.
257.	Scilly Islands	General population ; mostly at once farmers and pilots Ditto, ditto	19	5 ft. 8·25 in.	158·2	1·7112 meters.
			25	5 ft. 8·36 in.	158·6	1·7450 kilos.
			22	5 ft. 9·95 in.	166·1	68·50

REMARKS.

No.

254. By the Rev. Francis Wright, Vicar of St. Stythian's, for Dr. Barnard Davis, F.R.S. (*Cran. Brit.*, decad. vi, p. 202). '87 inch and 11 lbs. allowed. Mr. Wright thought the sample a fair one. The extremes were 5 feet 4 inches and 5 feet 10 $\frac{1}{2}$ inches. The circumference of head averaged 22.7 inches, which is large.
255. By several observers. '84 inch and 10.4 lbs. allowed. The average of height is lower than I should have expected.

I owed this return to the late R. Hosken, Esq., of Penryn. The sample was a fair one, taken as the men came for their wages. '92 inch and 10.5 lbs. allowed. No particular relation of stature to colour, except that the brown-haired men were taller than the rest.

These two valuable returns were made separately at different times by J. Grenfell Moyle, Esq., Scilly, at the instance of Dr. Davis and myself. They probably yield a very fair sample of the population. In the second case I allow '95 inch for shoes, and in both 11.1 lbs. for clothing. The colours of eyes and hair in 65 men were, according to Mr. Moyle:—

Hair	Light	Brown	Dark	Total
Blue Eyes	11	9	7	27
Grey Eyes	—	6	4	—
Dark Eyes	—	1	11	4
Black Eyes	—	—	8	4
Total.....	11	16	30	65

The black and dark-haired in both returns were conspicuously (about 2 inches) taller than the fair and brown-haired (*Crania Britannica*, decade vi.) Tradition, history, and the family names indicate that the population is not exclusively of Cornish origin; some old families seem to have come from Devon, and even from Wales. .

NATIVES OF IRELAND.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight.	Naked height.	Naked weight.
				With shoes.	Without shoes.			
258.	Ireland; all parts, but in large proportion Munster	Miscellaneous, but with hardly an exception of the lower class, from a great number of reports	59	5' 7·00		147·3	1·6824	62·45
259.	Munster, especially Cork	Applicants at the Bristol Infirmary, with accidental or slight ailments	40	5' 6·63		146·6	1·6748	62·36

REMARKS

No.																																				
258.	•8 inch and 9•6 lbs. allowed. These are all the Irishmen who occur in the reports from England, Scotland, and Wales. Nearly half are from my own Bristol reports.																																			
259.	By myself. •73 inch and 9•1 lbs. allowed. Colours in 45 :—																																			
	<table border="1"> <thead> <tr> <th>Hair</th> <th>Red</th> <th>Fair</th> <th>Brown</th> <th>Dark</th> <th>Black</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Eyes, Light</td> <td>1</td> <td>3</td> <td>11</td> <td>14</td> <td>—</td> <td>29</td> </tr> <tr> <td> " Dark Grey</td> <td>1</td> <td>—</td> <td>—</td> <td>2•5</td> <td>2•5</td> <td>6</td> </tr> <tr> <td> " Hazel or Brown</td> <td>—</td> <td>—</td> <td>—</td> <td>4•5</td> <td>3</td> <td>10</td> </tr> <tr> <td>Total</td> <td>2</td> <td>3</td> <td>13•5</td> <td>19</td> <td>5•5</td> <td>45</td> </tr> </tbody> </table>	Hair	Red	Fair	Brown	Dark	Black	Total	Eyes, Light	1	3	11	14	—	29	" Dark Grey	1	—	—	2•5	2•5	6	" Hazel or Brown	—	—	—	4•5	3	10	Total	2	3	13•5	19	5•5	45
Hair	Red	Fair	Brown	Dark	Black	Total																														
Eyes, Light	1	3	11	14	—	29																														
" Dark Grey	1	—	—	2•5	2•5	6																														
" Hazel or Brown	—	—	—	4•5	3	10																														
Total	2	3	13•5	19	5•5	45																														

NATIVES OF SCOTLAND.—LUNATICS.

114

No.	Place or district of birth.	Class of persons observed.	To persons. No. N.	Average height.		Naked height.	Naked weight. kilos.
				With shoes.	Without shoes.		
260.	Shetland	Lunatics in fair bodily health, not including idiots	6	5 ft. in.	6·63 ft. in.	145·6 lbs.	1·6934 meters.
261.	Caithness	Ditto, ditto	11	5 ft. in.	6·80 ft. in.	145·5 lbs.	1·6977 kilos.
262.	Inverness, Nairn, Ross, and Sutherland (mainland)	Ditto, ditto	70	5 ft. in.	6·99 ft. in.	146·6 lbs.	1·7025 kilos.
263.	Inverness and Ross (islands) (Northern Hebrides)	Ditto, ditto	16	5 ft. in.	5·98 ft. in.	146·8 lbs.	1·6768 kilos.

260. In the Montrose Royal Asylum. By Dr. James Howden, Medical Superintendent, and Dr. Addison. 8 lbs. allowed for clothes, by Dr. Howden's direction. All dark-haired, with one exception. See remarks on No. 261, and on the return from Inverness Asylum.
261. Also at Montrose. 8 lbs. allowed for clothes.

262. By Dr. Thomas Aitken, Member of the Anthropol. Soc. of Paris, and Superintendent of the Inverness District Asylums. The return is very minute and accurate, as indeed are all those I have from Scotch Asylums. Average weight of clothes 8·4 lbs.

263. Also by Dr. Aitken. Clothes 8·4 lbs.

The striking difference in stature between the mainland Highlanders and the Hebrideans, while their average weights are about the same, is confirmatory of other statements on the subject. These lunatics are mostly from Skye; the Uist men (see Nos. 6, 7, 8) are taller. There are diversities also in complexion, red and black hair being commoner on the mainland, brown shades in the isles. Dr. Aitken gives the following as the colours of the eyes and hair in 86 lunatics (70 mainlanders and 16 islanders):—

	Hair	Red	Fair	Brown	Dark	Total
MAINLAND.	Eyes, Light	2	12	9	13	38
	" Dark Grey	—	2	5	8	17
	" Brown	—	3	4	4	15
	Total	2	17	18	25	70
ISLANDS.	Eyes, Light	—	2	—	6	8
	" Dark Grey	—	—	—	3	3
	" Brown	—	—	1	3	5
	Total	—	2	1	12	16

I owe to Dr. Aitken some valuable observations on the relation of the colour of the hair to various forms of insanity, which I propose to publish elsewhere.

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked height.	Naked weight.
			With shoes. ft. in.	Without shoes. ft. in.		
264.	Argyle (islands) (Southern Hebrides)	Ditto, ditto	10	5 5·85	144·9	62·14
265.	Argyle (mainland)	Ditto, ditto	27	5 7·59	150·6	64·40
266.	Perthshire (Highlands)	Ditto, ditto	15	5 6·38	151·4	65·38
267.	Perthshire (Lowlands)	Ditto, ditto	41	5 6·52	147·8	63·75
268.	Angus	Ditto, ditto	26	5 6·35	141·3	60·46
269.	Eastlothian	Ditto, ditto	11	5 6·66	146·3	62·82

264. This and the next return are by Dr. Sibbald, of the Argyle Asylum, Lochgilphead. I allow 7·9 lbs. for clothes in this case, and 8·6 lbs. in the next.

265. Dr. Sibbald. The islanders are shorter than the mainlanders, as was the case further north. Colours in 40 :—

	Hair	Fair	Brown	Dark	Black	Total
Eyes, Light.....	1	5	13	3	4	26
“ Dark Grey	—	—	3	1	4	8
“ Brown	—	1	1	—	4	6
Total.....	1	6	17	4	12	40

The fair men, and those with grey eyes and dark or black hair, are larger than the rest.

266. By Dr. C. Macintosh, of the Perthshire Asylum, Murthly. Distributed among this and some of the following numbers are some inmates of the Murray Royal Institution, Perth, from a return by Dr. Lauder Lindsay, F.L.S. Clothes weigh $7\frac{1}{4}$ lbs. according to Dr. Macintosh.

267. Dr. Macintosh. Clothes $7\frac{1}{4}$ lbs. The slight differences between the Perthshire Highlanders and Lowlanders probably correspond to those prevailing in the same population. There are differences also in colour of hair, not wholly accidental, as I think.

	Fair	Brown	Dark	Black	Total
Highlanders	—	3	4	4	15
Lowlanders	5	6	12	13	41

268. This, like the Shetland and Caithness returns, is by Dr. James Howden, of the Montrose Asylum. ·2 inch allowed for slippers. The clothes weighed 8 lbs. See Dr. Howden on the weight of lunatics in his report for 1867.

269. By Dr. T. Howden, Superintendent of the Haddington Asylum. 7·8 lbs. allowed for clothes.

No.	Place or district of birth.	Class of persons observed.	Average height.			Naked height.	Naked weight.
			With shoes. ft. in.	Without shoes. ft. in.	Average weight. lbs. meters.		
270.	Border counties (basin of the Tweed)	Ditto, ditto	22	5 7·27	145·6	1·7198	62·59
271.	Dumfriesshire	Ditto, ditto	36	5 7·11	147·3	1·6951	63·18
272.	Edinburgh	Ditto, ditto	9	5 7·11	146·66	1·6862	62·14
273.	Glasgow	Ditto, ditto	16	5 6·49	155·7	1·6898	65·08
274.	Rest of Scotland	Ditto, ditto	36	5 6·39	148·6	1·6873	63·50

REMARKS.

No.	
270.	By Dr. S. Grierson, Superintendent. 8·1 lbs. allowed for clothes. These men surpass in stature those included in any other return. Most of them are set down by Dr. Grierson as having blue eyes and fair or light-brown hair.
271.	By Dr. Gilchrist, Superintendent of the Crichton Institution and of the Southern Counties Asylum, and Dr. Munro, Assistant Medical Officer. Part of a large return. Clothes average 8 lbs. Hair generally light or brown.
272.	Upper and middle class Lunatics, chiefly from the Murray and Crichton Institutions. ·76 inch allowed for shoes, and 9·66 lbs. for clothes.
273.	Mostly from the Glasgow Royal Asylum, Dr. Alex. Mackintosh, Superintendent, or from the Crichton Institution. Several of the upper class, and one or two corpulent men, are included. Dr. Mackintosh sets down the weight of clothing at 13 lbs. I have taken the average at 12·2 lbs.
274.	From different returns, from English as well as Scottish Asylums. 8·6 lbs. allowed for clothes.

NATIVES OF ENGLAND.—LUNATICS,

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Naked weight.	Naked weight.
				With shoes.	Without shoes.		
275.	Northumberland	Lunatics in fair bodily health ; idiots and congenital imbeciles being excluded	6	5 ft. 8·2 in.	5 ft. 8·2 in.	146·9 lbs.	1·7333 meters.
276.	Cumberland	Ditto, ditto	48	5 ft. 6·60 in.	5 ft. 6·60 in.	151·5 lbs.	1·6926 meters.
277.	Westmoreland	Ditto, ditto	9	5 ft. 8·11 in.	5 ft. 8·11 in.	160·5 lbs.	1·7310 meters.
278.	Durham	Ditto, ditto	30	5 ft. 6·53 in.	5 ft. 6·53 in.	148·0 lbs.	1·6908 meters.
279.	North and East Ridings	Ditto, ditto	20	5 ft. 6·55 in.	5 ft. 6·55 in.	137·7* lbs.	1·6913 meters.
280.	Lancashire	Ditto, ditto	41	5 ft. 5·12 in.	5 ft. 5·12 in.	144·7 lbs.	1·6548 meters.
						120	62·45 kilos.

REMARKS.

No.	REMARKS.
275.	Dr. H. Grainger Stewart, Medical Superintendent Newcastle Borough Asylum. Clothing estimated at 8·9 lbs.
276.	With few exceptions, from the Cumberland and Westmoreland Asylum, and by Dr. T. S. Clouston, Medical Superintendent. I estimate the clothing at 9·2 lbs. Of 49, 35 light and 14 dark eyes; of 48, 10 fair, 7 brown, 31 dark hair.
277.	All from Dr. Clouston. Estimate clothing at 9·5 lbs. The largest men met with in any asylum, but of course the number is too small. Of 10, 6 light eyes, 2 fair hair. On the whole, taking the two counties together, fair men are taller, but lighter than others.
278.	Dr. Robert Smith, Medical Superintendent Durham County Asylum. I allow 8·5 lbs. for clothes. The return includes all the lunatic natives of the county who answered the conditions. Eyes and hair rather light on the whole.
279.	Dr. T. B. Christie, Medical Superintendent North Riding Asylum, and Mr. Chaffer, Assistant Medical Officer. 10 from each division. The weight is given without clothing. The North Riding men are by much the bigger, but I have not separated them, the numbers being so small. Eyes, 6 light grey, 7 dark grey, 2 light brown, 5 brown; hair, 6 light, 8 brown, 6 dark. Neutral eyes are singularly common in most parts of Yorkshire (see the returns from the same population).
280.	24 of these are from the great Lancaster Asylum, by Dr. Niel Gray Mercer, 2nd Medical Officer (Mr. Broadhurst, Medical Superintendent); the remainder from sundry other reports, including some upper class men from Dumfries Asylum, who raise the average a little. 8·7 lbs. allowed for clothing. 5 men with Irish names average only 5 ft. 4·7 inches and 138·6 lbs. The red and fair men are notably taller than the dark.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight.	Naked height.	Naked weight.
				With shoes.	Without shoes.			
281.	Hull	Ditto, ditto	17				meters. 1·6656	kilos. 60·32
282.	Nottingham : town and suburbs	Ditto, ditto	18	5 ft. 4 in.	5 ft. 5·54 in.	lbs. 140·8	1·6438	56·92
283.	Ditto, villages and small towns	Ditto, ditto	18	5 ft. 6·22 in.	5 ft. 6·22 in.	143·3	1·6830	61·46
284.	Derbyshire	Ditto, ditto	29	5 ft. 6·01 in.		148·6	1·6583	62·59
285.	Cheshire		22	5 ft. 6·38 in.			1·6680	63·50
286.	Staffordshire	Ditto, ditto	26	5 ft. 6·23 in.		151·3	1·6882	63·74

No.

REMARKS.

281. F. W. Casson, Esq., Medical Superintendent Hull Borough Asylum. The return included, I believe, all the available inmates, of whom 17 were natives of Hull. 7·8 lbs. allowed for clothes. Great prevalence of light eyes and hair, especially when the Hull men are compared with inmates who belong to other districts. Hair, red 1, light-brown 8, brown 4, dark-brown 4, black 0.
- 282} 283} Dr. W. P. Stiff, Medical Superintendent Nottingham County and Borough Asylum. 7·4 and 7·8 lbs. allowed for clothes. Note the great difference in the size of the town and country born men, indicating degeneracy in the former. Eyes and hair on the whole more often dark in the former than in the latter.
284. Dr. Hitchman, Medical Superintendent Derby County Asylum. ·71 inch for shoes, and 10·6 lbs. for clothes. In 30—Eyes, 4 blue, 7 blue-grey, 2 light grey, 10 grey, 1 dark grey, 1 light brown, 5 brown, Hair, 2 red, 13 light brown, 3 brown, 10 dark brown, 2 black. The light-haired men are much taller and heavier than the dark; and the townsmen, who are few, surpass the rest.
285. Dr. Harper, Medical Superintendent Cheshire Asylum. ·75 inch for shoes, and 10·2 lbs. for clothing. Light or grey eyes prevail, with brown hair.
286. Mark Noble Bower, M.D., Medical Superintendent County Asylum, Stafford. Very exact. Clothes, 12·3 lbs., as allowed by Dr. Bower.
- | | Hair | Light Brown | Dark Brown | Black | Total |
|----------------------------------|------|-------------|------------|-------|-------|
| Eyes, Blue, Light Grey | 3 | 4 | 5 | — | 12 |
| ," Dark Grey and Light Brown..." | — | 2 | 5 | 1 | 8 |
| ," Brown..... | 1 | — | 3 | 2 | 6 |
| Total | 4 | 6 | 13 | 3 | 26 |

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked weight. kilos.
			With shoes. ft. in.	Without shoes. ft. in.	
287.	Leicestershire and Rutland	Ditto, ditto	53	5 6·75	148·0 1·6812 63·50
288.	Warwickshire—				
	A. Birmingham	12 5 5·66	137·3 1·6496 58·05		
	B. Other towns	19 5 5·56	141·2 1·6470 59·82		
	C. Country	19 5 6·59	152·6 1·6733 64·68		
	D. Total	50 5 5·98	144·7 1·6578 61·23		
289.	Norwich	Ditto, ditto	5 5·09	141·88	1·6542 60·77

This counter-changing of colours is certainly common in Stafford, as in Devon and parts of Wales, and North Lancashire. M. Guibert, in his valuable paper on the Anthropology of Bretagne, takes it to be an indication of the mixture of uncomformable races. I have myself observed some facts consistent with this view.

287. John Buck, Esq., Medical Superintendent Leicestershire and Rutland Asylum. I allow 8 lbs. for clothes.

Hair	Light Brown	Brown	Dark Brown	Black	Total
Eyes, Blue and Grey	6	7	4	1	18
,, Dark Grey	2	2	4	1	9
,, Brown, etc.	2	5	7	12	26
Total	10	14	15	14	53

* Darkness of eyes remarkable ; agrees with other returns from Leicester. Brown and dark brown men bigger than the two extremes ; the fair the smallest.

By T. Green, Esc., Medical Superintendent Birmingham Borough Asylum, and Dr. Parsey, Medical Superintendent, and Dr. Snell, Assistant Medical Officer, Warwick County Asylum. I allow .75 inch for shoes, and 9.3 lbs. for clothes in the first two instances, and 10.6 lbs. in the third. The dark-haired men are much bigger as a rule, at least in the county, though not in Birmingham. Colours of hair in the three—

Hair	Red	Fair	Brown	Dark or Black
Birmingham	1	2	1	8
Towns.....	—	—	6	5
Country	—	—	1	6

Of the Birmingham men, 3 have brown eyes ; of the townsmen, 5 ; of the countrymen, 11. In this case, I believe the influence of race to be traceable. A dark-eyed and often dark-haired race occupies great part of Leicestershire, Warwickshire, and Northamptonshire—the most central portion of England.

288. F. Sutton, Esq., Medical Superintendent Norwich Asylum. 7.88 lbs. allowed for clothes.

289.

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.	Average weight.	Naked height.	Naked weight.
				With shoes.	Without shoes.	ft. in.	kilos.
				ft. in.	ft. in.	lbs.	meters.
290.	Norfolk, country	Ditto, ditto	20	5 7·65		162·6	1·7002
291.	Cambridgeshire	Ditto, ditto	19	5 6·76	149 ?	1·6967	63·50
292.	Suffolk	Ditto, ditto	51	5 6·71	145·3	1·6763	61·68
293.	Bucks	Ditto, ditto	25	5 6·13	143·2	1·6598	60·77
294.	Worcestershire	Ditto, ditto	29	5 7·28	158·5	1·6908	67·12
295.	Gloucestershire	Ditto, ditto	20	5 6·35	159·8	1·6672	67·80

REMARKS.

No.																																				
290.	Dr. W. C. Hills, Medical Superintendent Norfolk Asylum. I allow .75 inch for shoes, and 10·6 lbs. for clothes. Striking difference in size between town and country, but in colour not much difference. In 45—																																			
	<table border="1"> <thead> <tr> <th>Hair</th><th>Red</th><th>Fair</th><th>Brown</th><th>Dark</th><th>Black</th><th>Total</th></tr> </thead> <tbody> <tr> <td>Eyes, Blue or Grey</td><td>1</td><td>10</td><td>10</td><td>5</td><td>2</td><td>28</td></tr> <tr> <td>„ Light Brown, etc.....</td><td>—</td><td>1</td><td>4</td><td>3</td><td>—</td><td>8</td></tr> <tr> <td>„ Dark Brown</td><td>1</td><td>1</td><td>2</td><td>4</td><td>1</td><td>9</td></tr> <tr> <td>Total</td><td>2</td><td>12</td><td>16</td><td>12</td><td>3</td><td>45</td></tr> </tbody> </table>	Hair	Red	Fair	Brown	Dark	Black	Total	Eyes, Blue or Grey	1	10	10	5	2	28	„ Light Brown, etc.....	—	1	4	3	—	8	„ Dark Brown	1	1	2	4	1	9	Total	2	12	16	12	3	45
Hair	Red	Fair	Brown	Dark	Black	Total																														
Eyes, Blue or Grey	1	10	10	5	2	28																														
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„ Dark Brown	1	1	2	4	1	9																														
Total	2	12	16	12	3	45																														
291.	Dr. C. Mackenzie Bacon, Medical Superintendent Cambridge County Asylum. The average weight was 143 lbs. without coat, waistcoat, or shoes, or probably 140 lbs. naked. Mostly grey-eyed and brown-haired. 6 townsmen, Cambridgeshire, Ely, and Wisbech, average only 5 feet 4·44 inches.																																			
292.	Dr. John Kirkman, Medical Superintendent Suffolk County Asylum. .75 inch for shoes, and 9·3 lbs. for clothes. A good deal of dark hair. Average of 16 farm labourers only 5 feet 6·25 inches and 141·8 lbs.																																			
293.	John Humphry, Esq., Medical Superintendent County Asylum, Aylesbury. .75 inch for shoes, and 9·2 lbs. for clothes. Light men much taller and heavier than dark. 8 agricultural labourers average 5 feet 4·97 inches and 141·4 lbs.; 5 of them dark-haired.																																			
294.	Dr. Sherlock, Medical Superintendent City and County Asylum. .75 inch for shoes, and 10·5 lbs. for clothes. Fair men rather taller and lighter than others.																																			
295.	E. Toller, Esq., Medical Superintendent County Asylum. Note the great weight of the men. 9 of 20 brown-eyed. .75 inch for shoes, 10·3 lbs. for clothes.																																			

No.	Place or district of birth.	Class of persons observed.	Persons N. o.	Average height.		Average weight.	Naked height.	Naked weight. kilos.
				With shoes.	Without shoes.			
296.	Bristol	Ditto, ditto; inmates of asylum, but birthplaces not noted	47	5 ft. 5 in.	5 ft. 5·41 in.	143·3 lbs.	1·6432 meters.	60·55
297.	Shrewsbury (town)	Ditto, ditto; nativity ascertained	10	5 ft.	7·05 in.	141·6 lbs.	1·6840 meters.	59·69
298.	Salop (county)	Ditto, ditto	23	5 ft.	6·0 in.	147·9 lbs.	1·6608 meters.	62·54
299.	Montgomeryshire	Ditto, ditto	19	5 ft.	5·67 in.	150·2 lbs.	1·6499 meters.	63·59
300.	North Wales, except Montgomeryshire	Ditto, ditto	40	5 ft.	5·82 in.	150·7 lbs.	1·6537 meters.	63·82
301.	Herefordshire	Ditto, ditto	22	5 ft.	6·18 in.	150·4 lbs.	1·6830 meters.	63·59
302.	Monmouthshire and Breconshire	Ditto, ditto	43	5 ft.	5·50 in.	143·5 lbs.	1·6646 meters.	61·44

REMARKS.

No.

296. Dr. H. Stephens, Medical Superintendent Bristol City Asylum. Birthplaces not distinguished, but probably the great majority are of Bristolian birth. •75 inch and 9•8 lbs. allowed for shoes and clothing. Colours in 50—

	Red	Light	Brown	Dark	Black	Total
Blue or Grey.....	3	6	4	7	1	21
Brown or Dark.....	2	6	11	9	1	29
Total	5	12	15	16	2	50

Sizes: dark tallest, then fair, then brown.

297 Both by H. Rooke Ley, Esq., Medical Superintendent Salop and Montgomery Asylum. •75 inch and 10 lbs. allowed for shoes and clothing. The comparative tallness of the townsmen is contrary to rule; but the numbers are too small to be of much importance.

298 Also by Mr. H. R. Ley. •75 inch and 10 lbs. allowed.

299. G. Turner Jones, Esq., Medical Superintendent North Wales Asylum, Denbigh. •75 inch and 10 lbs. Colours in all North Wales (59) :—

	Hair	Red	Light	Brown	Dark	Black	Total
Eyes, Blue or Grey.....	1	6	15	1	—	—	23
" Light Brown.....	1	1	1	—	—	—	3
" Brown, etc....	—	6	14	11	2	2	33
Total	2	13	30	12	2	2	59

The dark men are small, the fair medium, the brown biggest. No doubt the "light" here include what I call brown, the "brown" including most of the dark shades of brown.

300. Dr. D. McCullough, Medical Superintendent Abergavenny Joint Counties Asylum, and Dr. Chapman, Assistant. Includes all in the asylum answering the conditions. I allow 8 lbs. for clothing. Nothing remarkable in colours. Light men rather small.

No.	Place or district of birth.	Class of persons observed.	Persons. No.	Average height.		Naked height.	Naked weight.
				With shoes. ft. in.	Without shoes. ft. in.		
303.	Glamorgan	Ditto, ditto	50	5 5'43	5 5'43	141.9	1·6440
304.	Caernarvonthenshire	Ditto, ditto	21	5 7.17	5 7.17	145.5	1·6880
305.	Cardiganshire	Ditto, ditto	17	5 6.56	5 6.56	141.2	1·6725
306.	Pembrokeshire	Ditto, ditto	14	5 6.39	5 6.39	140.4	1·6683
307.	All Wales (summary)		204			5 5.29	1·6573
308.	London		107			5 4.36	1·6356
							58.87
							61.46
							59.50
							59.14
							15
309.	Surrey (extra metropolitan)		5 6.51	157.8	1·6904	67.80	

REMARKS

No.																																				
303.	Dr. D. Yellowlees, Medical Superintendent County Asylum, Bridgend. ·75 inch allowed for shoes, and 9·4 lbs. for clothing.																																			
304)	Dr. C. J. Hearder, Medical Superintendent Joint Counties Asylum, Caermarthen. ·75 inch allowed for																																			
305}	shoes, and 10 lbs. for clothes. The Caermarthen men are light-eyed, with hardly an exception, but this is,																																			
306}	I think, accidental. The biggest men are dark brown, the fair and black both fall considerably below the average.																																			
307.	9·42 lbs. allowed here for clothing.																																			
308.	The greater part of these are from the report of H. W. Jackson, Esq., Assistant Medical Officer Surrey County Asylum (J. Biggs, Esq., Medical Superintendent). To these are added Londoners, from the reports of Dr. Sheppard of Colney Hatch; of Dr. Jepson and Mr. Hullah of the City of London Asylum; and of Dr. W. Hunt of the Hoxton Asylum, with a few stragglers. I allow 7·8 lbs. for clothing. Colours in 108:—																																			
	131																																			
	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Hair</th> <th>Red</th> <th>Light</th> <th>Brown</th> <th>Dark</th> <th>Black</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Blue or Grey</td> <td>2</td> <td>10</td> <td>26</td> <td>10</td> <td>1</td> <td>49</td> </tr> <tr> <td>Dark Grey or Light Brown</td> <td>—</td> <td>1</td> <td>12</td> <td>3</td> <td>—</td> <td>16</td> </tr> <tr> <td>Brown or Dark</td> <td>1</td> <td>2</td> <td>8</td> <td>29</td> <td>3</td> <td>43</td> </tr> <tr> <td>Total</td> <td>3</td> <td>13</td> <td>46</td> <td>42</td> <td>4</td> <td>108</td> </tr> </tbody> </table>	Hair	Red	Light	Brown	Dark	Black	Total	Blue or Grey	2	10	26	10	1	49	Dark Grey or Light Brown	—	1	12	3	—	16	Brown or Dark	1	2	8	29	3	43	Total	3	13	46	42	4	108
Hair	Red	Light	Brown	Dark	Black	Total																														
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Total	3	13	46	42	4	108																														
309.	These figures probably nearly correspond to those of the ordinary population. The number of brown eyes is noticeable. The low average of stature pervades all the returns from which this item is compiled. There is no peculiarity in the relation of stature to colour.																																			
	21																																			
	H. W. Jackson, Esq., F.A.S.L. (see above). In 10 of these both hair and eyes are dark. I allow 8·3 lbs. for clothing.																																			

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
310.	Kent		59	5 7·06	5 7·06	163·8	1·6852	69·30
311.	Sussex		82	5 6·35	5 6·35	149·28	1·6672	63·50
312.	Hampshire		66	5 5·30	5 5·30	144·2	1·6396	62·14

REMARKS.

No.

310. 48 of these are from the Kent County Asylum. Dr. W. P. Kirkman, Medical Superintendent, Mr. Spencer, Assistant Medical Officer. Their averages are 5 feet 7·40 inches and 170·5 lbs.; both remarkably high, but I am assured the sample is a fair one. It would be difficult in some asylums to pick 48 men equal to these. Dr. Kirkman's dietary is certainly a very liberal one. I allow 75 inch and 11 lbs. for shoes and clothing. The frequency of eyes of brownish hue, which is notable in London and other parts of the south-east, reappears here. Mr. Spencer divides his 48 thus : Eyes—12 blue, 13 grey, 12 hazel, 1 dark, 5 brown, 5 black; Hair—8 light, 6 light brown, 20 brown, 17 dark, 7 black, and of the whole 59 only 32 have light eyes. On the average the light men are the tallest, though the largest man is black. 9 agricultural labourers average only 5 feet 6·83 inches.

311. Dr. C. Lockhart Robertson, Medical Superintendent Sussex County Asylum. Includes all the men suitable for my purpose. 75 inch and 9·3 lbs. allowed.

	Hair	Red	Fair	Light Brown	Dark Brown	Black	Total
Eyes, Blue or Grey ...	1	13	15	8	1	38	38
,, Hazel.....	—	1	6	31	6	44	44
Total.....	1	14	21	39	7	82	82

Relation of stature to size not very striking. The fair men are short and the black tall and heavy; the light brown above and the dark brown below the average.

312. By Dr. Manley, Medical Superintendent Hants County Asylum. Includes all the men suitable. 7·2 lbs. for clothes. Colours :—

	Red	Fair or Light Brown	Brown	Dark and Black	Total
Blue, Grey, etc.	2	15	4	6	27
Hazel	1	5	3	3	12
Brown, etc.	—	2	4	12	18
Total	3	22	11	21	57

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked height.	Naked weight.
			With shoes. ft. in.	Without shoes. ft. in.		
313.	Wilts	89		5 5·29	143·3	1·6593
314.	Dorset	28	5 6·60		152·14	1·6735
315.	Somerset	27	5 5·68		151·2	1·6512
					64·81	63·95

No.	REMARKS.																																										
	The great proportion of hazel or dark eyes continues. The light men are smaller than the others. 15 Southampton, Winchester, and Portsmouth average 5 ft. 5'31 in., 144·8 lbs.																																										
313.	This return I owe to Dr. Thurnam, Medical Superintendent Wilts County Asylum, etc. It includes all the inmates suitable. Dr. T. has favoured me with much other valuable information, to be utilised elsewhere. 8·2 lbs. for clothes. Colours in 89 :—																																										
	<table border="1"> <thead> <tr> <th>Hair</th> <th>Fair</th> <th>Brown</th> <th>Dark</th> <th>Black</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Red</td> <td>18</td> <td>28</td> <td>1</td> <td>1</td> <td>48</td> </tr> <tr> <td>Eyes, Light.....</td> <td>—</td> <td>5</td> <td>3</td> <td>6</td> <td>31</td> </tr> <tr> <td>“ Neutral.....</td> <td>1</td> <td>16</td> <td>3</td> <td>5</td> <td>10</td> </tr> <tr> <td>“ Dark</td> <td>—</td> <td>—</td> <td>3</td> <td>5</td> <td>10</td> </tr> <tr> <td>Total.....</td> <td>1</td> <td>23</td> <td>46</td> <td>7</td> <td>89</td> </tr> </tbody> </table>	Hair	Fair	Brown	Dark	Black	Total	Red	18	28	1	1	48	Eyes, Light.....	—	5	3	6	31	“ Neutral.....	1	16	3	5	10	“ Dark	—	—	3	5	10	Total.....	1	23	46	7	89						
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Red	18	28	1	1	48																																						
Eyes, Light.....	—	5	3	6	31																																						
“ Neutral.....	1	16	3	5	10																																						
“ Dark	—	—	3	5	10																																						
Total.....	1	23	46	7	89																																						
	The dark brown men are tallest; the black men least.																																										
314.	Dr. J. C. Symes, Medical Superintendent Dorset County Asylum. ·75 inch allowed for shoes and 9·4 lbs. for clothes, by Dr. Symes's direction. Colours of hair and eyes :—																																										
	<table border="1"> <thead> <tr> <th>Hair</th> <th>Red</th> <th>Fair</th> <th>Brown</th> <th>Dark</th> <th>Black</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Hair</td> <td>1</td> <td>2</td> <td>6</td> <td>3</td> <td>—</td> <td>12</td> </tr> <tr> <td>Blue or Grey.....</td> <td>—</td> <td>—</td> <td>2</td> <td>5</td> <td>—</td> <td>7</td> </tr> <tr> <td>Dark Grey, etc.</td> <td>—</td> <td>—</td> <td>—</td> <td>5</td> <td>2</td> <td>9</td> </tr> <tr> <td>Brown.....</td> <td>—</td> <td>—</td> <td>2</td> <td>5</td> <td>2</td> <td>9</td> </tr> <tr> <td>Total</td> <td>1</td> <td>2</td> <td>10</td> <td>13</td> <td>2</td> <td>28</td> </tr> </tbody> </table>	Hair	Red	Fair	Brown	Dark	Black	Total	Hair	1	2	6	3	—	12	Blue or Grey.....	—	—	2	5	—	7	Dark Grey, etc.	—	—	—	5	2	9	Brown.....	—	—	2	5	2	9	Total	1	2	10	13	2	28
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Brown.....	—	—	2	5	2	9																																					
Total	1	2	10	13	2	28																																					
	The brown-haired men average 5 feet 7·2 inches.																																										
315.	Dr. Henry Bath, Assistant Medical Officer Somerset County Asylum (Dr. Medicott Medical Superintendent). ·75 inch and 10·2 lbs. allowed for shoes and clothes, by Dr. Bath's direction. Average of 10 born in towns, 5 feet 5·12 inches and 141·7 lbs.; average of 15 born in rural districts, 5 feet 5·55 inches and 155·4 lbs. In 26, colour of hair and eyes :—																																										

No.	Place or district of birth.	Class of persons observed.	No. of persons.	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
316.	Devon, East		23		5 4·64	148·3	1·6428	63·63
317.	Devon, North		38		5 4·80	146·9	1·6468	63·00
318.	Devon, South		32		5 4·73	144·5	1·6450	61·90
319.	Exeter		12		5 4·73	142·3	1·6450	60·91
320.	Plymouth and Devonport		19		5 5·21	151·1	1·6573	64·90
321.	Devon—total		125		5 4·78	146·68	1·6464	62·90
322.	All Ireland		33	5 6·44		146·03	1·6685	62·05

REMARKS.

No.	Fair or Light Brown	Brown	Dark	Black	Total
Blue or Grey.....	9	5	2	—	16
Dark Grey.....	—	1	2	—	3
Brown.....	1	—	3	3	7
Total	10	6	7	3	26

The light-haired men are taller than the dark-haired. The return includes two or three very heavy men.

Dr. C. J. Saunders, Medical Superintendent Devon County Asylum. Dr. S. having kindly sent me particulars of his whole available population, I have divided them according to districts. East Devon comprehends the country east of Exeter. North Devon is, roughly speaking, the country north of Dartmoor. The natives of Devon are, as a rule, short and thick-set. The averages show no decline in the stature of the few men from Exeter, and an increase in Plymouth. This may perhaps be accounted for in both cases by admixture of blood. The people of Plymouth are to a great extent of Cornish descent; and the Cornish are generally taller than the Devonians. I have allowed 8 lbs. for shoes.

The relations of stature to colour are not very clear, but the black-haired men are very short, the dark brown and the brown taller, and the fair rather short.

Collected from all the English and Scotch Asylum Reports. ·79 inch allowed for shoes, and 9·23 lbs. for clothes. In 25 of the 33 the eyes are light, the hair being almost always brown or dark.

322.

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321 }

CRIMINALS.

No.	Place or district of birth.	Class of persons observed.	To persons. No. N.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs. in.	Naked height. meters.	Naked weight. kilos.
323.	Scotch Highlanders	Convicts in General Prison at Perth	15	5 8·5	5 6·88	154·0	1·7400	65·31
324.	Scotchmen (not known to be Highlanders)	Ditto, ditto	319	5 6·23	5 6·23	149·1	1·6822	63·10
325.	Englishmen	Ditto, ditto	55	5 6·65	5 6·65	147·7	1·6929	62·45
326.	Irishmen	Ditto, ditto	110	5 5·67	5 5·67	144·1	1·6680	60·82
327.	Almost all Englishmen ; mostly from Yorkshire and other northern and midland counties	Convicts in Wakefield Prison	254					
328.	Six large towns in Yorkshire	Wakefield convicts, included above	23	5 5·26	5 5·26	143·2	1·717	60·41
329.	Rest of Yorkshire	Ditto, ditto	46	5 6·58	5 6·58	147·3	1·6911	62·28

No.

REMARKS.

323 James Bruce Thomson, Esq., Medical Superintendent of the Prison, through Professor Christison. The men were measured without shoes, but weighed with them; for this I allow 10 lbs. Colour of eyes and hair in

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326 }

	Eyes Blue or Grey.				Eyes Hazel or Brown.					
	Red	Fair	Brown	Dark	Black	Red	Fair	Brown	Dark	Black
303 Scotch	13	40	117	32	26	...	—	3	37	14
15 Ditto Highlanders	—	—	1	10	2	...	—	—	1	—
95 Irish	5	10	34	8	13	...	2	—	12	2
51 English	4	20	2	3	...	—	—	—	10	2
										6

These figures develop to some extent the national tendencies with respect to colour, *e. g.*, the comparative frequency of dark eyes among the English, of fair hair among the Scotch, and of the combination of light eyes with black hair among the Irish.

327 By the late W. R. Milner, Esq., Medical Officer of the Prison, whose own observations on the dietary and weight of prisoners are well known. He found the weight of the prison clothes to average 10 lbs., or a fraction less; I therefore allow 10 lbs. Colours in 259 :—

Hair	Red	Fair	Brown	Dark	Black	Total
Eyes, Blue or Grey	10	31	77	32	2	152
,, Neutral	—	1	1	6	2	10
,, Hazel, Brown, etc. ..	5	6	40	37	9	97
Total	15	38	118	75	13	259

The colours in 65 are given as follows :—

Eyes, Blue or Grey	Fair	Brown	Dark	Black	Total
,, Hazel or Brown	2	9	4	2	44
Total	—	—	8	—	21
					65

Thus the Yorkshiresmen are conspicuously lighter in hair-colour than the other convicts, but the difference is less marked with respect to the eyes. This accords with my own observations.

328 }
329 }

No.	Place or district of birth.	Class of persons observed.	No. of per- sons N. <i>bis.</i>	Average height.		Average weight. lbs.	Naked height. meters.	Naked weight. kilos.
				With shoes. ft. in.	Without shoes. ft. in.			
330.	Unknown : probably in most cases Lancashire or Ireland	Prisoners in Liverpool Jail, aged 23 to 30	1118	5 6'33		143·2	1·6654	60·41
330.	Manchester and Liverpool	Mostly from Wakefield ; a few from other prisons	37		5 4'97	136·8	1·6503	57·51
331.	Cheshire and Lancashire, excluding Manchester and Liverpool	From Wakefield	31		5 5'37	143·4	1·6604	60·50
332.	Nottingham town	Mostly from Wakefield	11		5 6'02	142·4	1·6770	60·05
333.	Lincolnshire, Notts, and Derbyshire	Ditto, ditto	16		5 6'01	144·0	1·6767	60·78
334.	Durham and other northern counties	Ditto, ditto	15		5 5'73	143·0	1·6695	60·32
335.	Staffordshire	Ditto, ditto	16		5 5'18	147·3	1·6555	62·28
336.	Salop	Prisoners, mostly from Shrewsbury Jail, with some from Wakefield	44		5 5'43	142·5	1·6619	60·10
337.	Birmingham	From Wakefield	25		5 5'20	141·3	1·6561	59·55
338.	Worcestershire, Warwickshire, Gloucestershire, & Herefordshire	Ditto, ditto	17		5 6'47	146·6	1·6884	61·95

REMARKS.

No.	
330.	By J. Towne Danson, Esq., F.S.S. Extracted from his valuable paper "On the Growth of the Human Body," in <i>Statistical Soc. Journal</i> for 1862. (See also Aitken "On the Growth of the Recruit.") .8 inch and 10 lbs. allowed.
332}	We have here an apparent exception to the ordinary rule of the inferiority in stature of convicts born in towns. It is due, I presume, to the smallness of the numbers.
333}	
335.	I have separated the Staffordshire convicts in order to exhibit their comparatively heavy weight, which seems to be a usual characteristic of the men of this county.
336.	J. D. Harries, Esq., Surgeon to the Shrewsbury Jail, through Dr. Henry Johnson. Of the 44, exactly half (22) bore names apparently Welsh. 10 lbs. allowed here and elsewhere, unless otherwise specified.
337.	10 of 23 had the combination of light eyes with dark hair, which is very prevalent at Birmingham.

No.	Place or district of birth.	Class of persons observed.	$\frac{5}{6}$ of persons. c. N.	Average height. With shoes.	Average height. Without shoes.	Average weight. lbs.	Naked height. meters. 1·6662	Naked weight. kilos. 59·87
339.	Norfolk, Wilts, Kent, and intervening counties, except Bucks	Most from Wakefield and Southampton; some from Taunton and Bristol	54	5 ft. 5 in.	5 ft. 5 in.	142·0	1·6744	59·64
340.	Buckinghamshire	Prisoners in Aylesbury Jail	25	5 ft. 5 in.	5 ft. 5 in.	141·5	1·6460	55·83
341.	London	Mostly from Taunton Jail	29	5 ft. 5 in.	5 ft. 5 in.	133·1	1·6445	58·83
342.	Dorset, Devon, and Cornwall	From divers prisons	14		5 ft. 4 in.	139·7		
343.	Somerset, West	Prisoners in Taunton Jail	40	5 ft. 7 in.		146·8	1·6853	62·05
344.	Somerset, Mid	Ditto, ditto	24	5 ft. 7 in.		147·1	1·7003	62·19
345.	Somerset, East	Ditto, ditto	20	5 ft. 6 in.		142·5	1·6586	60·10
346.	Bristol	Prisoners in the Bridewell	23		5 ft. 3 in.	135·7	1·6155	57·00
347.	Wales	From divers prisons	8		5 ft. 3 in.	132·8	1·6136	55·70
348.	Ireland	Ditto, ditto	15		5 ft. 3 in.	133·8	1·6606	56·15
349.	Scotch towns	Mostly from Wakefield	10		5 ft. 5 in.	143·0	1·6510	60·32
350.	Englishmen; probably mostly Bristolians	In Bristol prison	90	5 ft. 6 in.		140·0	1·6662	58·96
351.	Irishmen	Ditto, ditto	12	5 ft. 6 in.		149·0	1·6672	63·05

REMARKS.

No.	
339.	The Southampton convicts by Dr. Bond, of the Hartley Institute.
340.	John Humphry, Esq., Medical Superintendent Bucks County Asylum.
341.	.8 inch and 10 lbs. allowed.
342.	Mr. Oakley, Governor of the Taunton Jail, through Dr. Edward Liddon. .82 inch and 10 lbs.
344.	Ditto, ditto. The tall stature is remarkable. Dr. Liddon agrees with me in attributing it, so far as it is not accidental, mainly to the fact that few of these prisoners are professional thieves, and that they are physically a sample of a mainly agricultural community.
345.	Ditto, ditto. .8 inch and 10 lbs.
346.	R. W. Tibbits, Esq., Surgeon to the Bristol Infirmary.
350	.75 inch and 10 lbs. allowed.
351	The comparison here is doubtless not quite fair, the English including more professionals, while the Irish were mostly confined for assaults, etc., and were probably an average sample, physically, of the Irish colony in Bristol.]

RECRUITS, AGED 23 AND UPWARDS.—SCOTLAND, ENGLAND, AND WALES.

In this Table contiguous counties have been grouped together only where the averages yielded by them severally were nearly identical.

No.	Place or district of birth.	Class of persons observed.	Average height.		Naked weight.	
			ft. in.	ft. in.		
352.	5 Highland Counties Glasgow and Paisley Rest of Scotland Scotland—total	Recruits examined, including those rejected	55 78 426 559	5 7.56 5 6.84 5 7.50 5 7.41	138.8 135.8 139.8 138.9	lbs. meters. kilos.
	4 Northern Counties Yorkshire Lancashire Cheshire Lincolnshire, Notts, Derbyshire Staffordshire, Salop Leicestershire, Rutland, Northants, Warwickshire, Worcestershire Norfolk Cambridgeshire, Hunts Suffolk, Essex, Herts, Beds Buckinghamshire Gloucestershire Herefordshire Wales		107 187 360 53 99 91 136 27 23 97 15 35 17 96	5 7.29 5 6.88 5 6.88 5 7.29 5 7.10 5 6.87 5 6.77 5 7.59 5 7.11 5 6.88 5 8.01 5 6.96 5 6.63 5 7.05	138.5 135.9 137.0 139.9 139.9 138.8 137.4 143.0 139.7 137.5 143.5 137.8 143.2 140.9	63.00 1.7132 1.7132 63.00

No.	Place or district of birth.	Class of persons observed.	To persons. No. of N.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. lbs. in.	Naked height. meters.	Naked weight. kilos.
	Middlesex (rural)		14	5' 37	5' 37	139·2		
	London		329	5' 6·81	5' 6·43	134·7		
	Surrey (rural)		14	5' 6·97	5' 6·43	139·8		
	Kent		50	5' 7·05	5' 6·97	140·4		
	Sussex		40	5' 7·23	5' 7·05	137·2		
	Hants, Berks, Oxfordshire, Wiltshire, and Dorset		128	5' 7·23	5' 7·23	140·2		
	Bristol		25	5' 7·24	5' 7·24	139·2		
	Somerset		68	5' 7·49	5' 7·49	140·0		
	Devon		42	5' 7·04	5' 7·04	140·1		
	Cornwall		15	5' 7·70	5' 7·70	139·2		
	England—total		2068	5' 6·99	5' 6·99	137·9	1·7023	62·54

IRELAND.

No.	Provinces, in the Order of the Proportion of Foreign Blood.	Class of persons observed.	To persons. No. of N.	Average height. With shoes. ft. in.	Average height. Without shoes. ft. in.	Average weight. (Naked.) lbs. in.	Naked height. meters.	Naked weight. kilos.
353.	Down, Antrim, and Derry Dublin, city and county Rest of Ulster Rest of Leinster Munster Connaught Ireland—total		178	5' 7·48	5' 7·48	135·92		
			288	5' 7·07	5' 7·07	137·65		
			220	5' 7·29	5' 7·29	137·60		
			328	5' 7·39	5' 7·39	139·31		
			305	5' 7·38	5' 7·38	138·73		
			198	5' 6·90	5' 6·90	137·10		
			1517	5' 7·25	5' 7·25	138·03	1·7091	62·60

No.	County of birth.	No. of persons.	Average height.		Average weight. (Naked.)
			With shoes.	Without shoes.	
354.	Antrim	89	5 7·39	135·93	
	Down	64	5 7·57	135·61	
	Derry	28	5 7·57	136·78	
	Tyrone	39	5 7·27	139·51	
	Armagh	52	5 7·34	135·57	
	Monaghan	34	5 7·35	138·41	
	Fermanagh	32	5 7·22	139·06	
	Cavan	30	5 6·94	138·36	
	Donegal	28	5 7·51	135·93	
	Tipperary	69	5 7·27	138·23	
	Limerick	71	5 7·12	137·28	
	Cork	105	5 7·27	138·40	
	Waterford	29	5 8·13	142·81	
	Clare	14	5 8·03	140·43	
	Kerry	19	5 7·88	135·81	
	Dublin	288	5 7·07	137·65	
	Kildare	54	5 7·67	139·83	
	Wicklow	31	5 7·62	141·32	
	Wexford	35	5 7·36	135·17	
	Kilkenny	29	5 7·71	143·00	
	Carlow	24	5 6·93	137·71	
	Louth	25	5 7·52	144·92	
	Meath	47	5 7·23	138·36	
	Westmeath	12	5 6·89	138·91	
	Longford	20	5 7·18	140·20	
	King's County	20	5 7·50	137·10	
	Queen's County	28	5 7·08	135·37	
	Sligo	31	5 7·26	136·45	
	Mayo	62	5 6·64	137·53	
	Leitrim	20	5 6·99	138·75	
	Galway	49	5 7·21	138·38	
	Roscommon	34	5 6·50	134·04	

INDIGENOUS NAMES.

No.	Place or district of birth.	Class of persons observed.		NON-LABOURERS.		LABOURERS.	
		Number.	Average height. ft. in.	Average weight. lbs.	Number.	Average height. ft. in.	Average weight. lbs.
355.	Down, Antrim, and Derry	27	5 7·70	131·37	32	5 7·54	141·97
	Rest of Ulster	39	5 7·53	137·59	77	5 7·00	138·15
	Ulster	66	5 7·60	135·00	109	5 7·16	139·27
	Dublin	20	5 6·76	133·68	80	5 7·24	141·11
	Leinster	61	5 6·84	136·82	122	5 7·52	140·49
	Munster	63	5 7·01	135·50	91	5 7·69	139·23
	Connaught	65	5 7·01	133·19	101	5 6·92	137·92
	Ireland—total	275			503		
	Averages		5 7·37	135·07		5 7·32	139·58

EXOTIC NAMES.

No.	Place or district of birth.	Class of persons observed.		NON-LABOURERS.		LABOURERS.	
		Number.	Average height. ft. in.	Average weight. lbs.	Number.	Average height. ft. in.	Average weight. lbs.
	Down, Antrim, and Derry	67	5 7·34	134·00	32	5 7·25	134·06
	Rest of Ulster	39	5 7·79	138·05	47	5 7·20	136·91
	Ulster	106	5 7·50	135·49	79	5 7·22	135·75
	Dublin	74	5 7·21	136·11	49	5 6·94	139·31
	Leinster	50	5 7·32	140·30	72	5 7·47	138·40
	Munster	33	5 7·70	135·85	42	5 7·56	140·81
	Connaught	14	5 6·68	135·07	39	5 6·48	139·50
	Ireland—total	277				281	
	Averages		5 7·37	136·55		5 7·19	138·29

C O M M E N T A R Y.

I HAVE endeavoured to put before the Society the materials I have gathered in as complete and lucid a manner as possible. In so doing, I may have laid myself open to the charge of needless particularity, by making too minute subdivisions; but as my object has been to allow the data to speak for themselves, and not merely to bring forward an array of one-sided facts to support my own theories or conclusions, I do not see that I could well have done differently.

The returns may be roughly divided into four classes, viz., private, lunatic, criminal, and military returns. The last class might perhaps have been expected to yield the most accurate and valuable data, at all events for the comparison between the several counties and districts; but I am satisfied that as regards England, Wales, and Scotland, such is not the case, whatever it may be in Ireland. The military returns from Great Britain are to a great extent unconformable with the other three classes, which, on the other hand, generally agree among themselves. In my opinion this unconformability may in most cases be explained by the condition of the local labour-market. Thus in Somerset the peasantry are abundant in numbers, and the rate of wages is rather low; and I am informed by Mr. Malet (see No. 234) that the military service is very popular, and that a great part of those young men who are sufficiently tall enter the marines or other corps. Here, accordingly, we find that the recruits average much higher than in some other counties; while the private returns point in a contrary direction.

On the other hand, where wages are high, and where there is much demand for men of superior physique, military service

is less esteemed, and the recruiting sergeant cannot so easily obtain tall men. In such districts he has to fall back on the artizans and unskilled labourers of the towns, who are very frequently undersized. The low position of Yorkshire in the scale is probably due mainly to this cause, and the very high one of the small county of Bucks to accident. Norfolk, Cornwall, and Durham doubtless fairly deserve their high places, and London and Glasgow their low ones, but little use can be made of these facts in the face of the contrary instances already cited.

When, however, we abandon the geographical method of arrangement, and classify these same materials with a view to the occupations of the men, and the industrial character of their birth-districts, we obtain from them some coherent and valuable information.

It may be necessary to remind the reader, before I call his attention to the tables I have framed on this principle, that the differences of average stature and weight, shewn therein to exist between the members of different occupations, are in truth vastly less than they would have been, had there been no minimum standard. It is obvious that the lower the average stature in any trade, the greater will be the proportion of its members who will be shut out from the comparison, and the greater will be the difference between the true average height, and that yielded by those men who are tall enough to enter the army. For example, the average height of the Connaught recruits is 5 ft. 6.9 ; of those from Dublin 5 ft. 7.07 ; and of those from Ulster, Munster, and the remainder of Leinster 5 ft. 7.38 ; yet observation of the curves formed by comparison of the numbers at each measurement, renders it probable that the average stature of the class supplying the recruits is, in Connaught, as low as 5 ft. $5\frac{1}{2}$, in Dublin somewhere about 5 ft. $6\frac{1}{3}$, and in the rest of Ireland not less than 5 ft. $6\frac{3}{4}$, the real being $2\frac{1}{2}$ times as great as the *apparent* difference between Connaught and Ulster.

I have divided England and Wales into five groups of districts, basing the arrangement on the industrial character of the populations of the several counties. Thus the Sussex group consists of Sussex, Berks, Herts, Bedfordshire, Bucks, Oxon, Cambridgeshire, Essex, Suffolk, Norfolk, Wilts, Dorset, Here-

fordshire, Salop, Lincolnshire, and North Wales, in all of which the agricultural element preponderates. The Kent group, which holds an intermediate position in this respect, contains Kent, Hants, Northants, Somerset, Gloucestershire, Devon, Cornwall, Notts, Cumberland, Westmoreland, Leicestershire, South Wales, with Monmouthshire, and the rural parts of Middlesex and Surrey. In the third or Staffordshire group I have included Cheshire, Staffordshire, Worcestershire, Warwickshire, Derbyshire, Durham, and Northumberland, with the city and county of Bristol : in these, manufacturing and mining industry begins to occupy the bulk of the population. A fourth group includes the manufacturing counties of Lancashire and Yorkshire; and a fifth the metropolis. A sixth is constituted by Scotland, which could not be satisfactorily divided. My classification of employments will explain itself. I have omitted some from the district tables which appear in the summary, because they furnished numbers too small to be of any use.

I.—GENERAL SUMMARY FOR GREAT BRITAIN.

Occupations.	Number.	Avge. Stature.	Avge. Weight.
Miscellaneous Outdoor -	174	5 ft. 7·56 in.	142·11 lbs.
Clerks, &c.	242	5 „ 7·28 „	136·74 „
Masons, &c.	100	5 „ 7·13 „	139·12 „
Labourers -	834	5 „ 7·11 „	140·36 „
Ironworkers	209	5 „ 7·11 „	140·22 „
Woodworkers	200	5 „ 7·08 „	137·07 „
Bakers	34	5 „ 6·91 „	142·06 „
Miners	67	5 „ 6·91 „	138·21 „
Tailors and Shoemakers	135	5 „ 6·89 „	134·49 „
Miscellaneous Indoor -	335	5 „ 6·77 „	132·53 „
Grooms	101	5 „ 6·57 „	138·72 „

II.—SUSSEX, &c.

Miscellaneous Outdoor -	28	5 „ 7·55 „	145·35 „
Labourers -	182	5 „ 7·30 „	141·80 „
Shoemakers and Tailors	14	5 „ 7·20 „	136·85 „
Ironworkers	25	5 „ 7·06 „	140·80 „
Woodworkers	30	5 „ 6·88 „	137·70 „
Clerks	30	5 „ 6·88 „	134·23 „
Miscellaneous Indoor -	17	5 „ 6·82 „	135·41 „
Masons, &c.	16	5 „ 6·65 „	135·40 „
Grooms	32	5 „ 6·28 „	139·20 „

III.—KENT, &c

Occupations.	Number.	Avge. Stature.	Avge. Weight.
Clerks, &c. -	- 43	5 „ 7·57 „	139·51 „
Miners -	- 12	5 „ 7·52 „	143·92 „
Labourers -	- 166	5 „ 7·05 „	140·77 „
Woodworkers -	- 42	5 „ 6·96 „	136·33 „
Miscellaneous Indoor -	- 37	5 „ 6·94 „	134·19 „
Grooms -	- 20	5 „ 6·83 „	139·90 „
Miscellaneous Outdoor -	- 38	5 „ 6·81 „	142·00 „
Shoemakers and Tailors	31	5 „ 6·81 „	136·64 „
Ironworkers -	- 30	5 „ 6·79 „	138·71 „
Masons, &c. -	- 15	5 „ 6·65 „	138·66 „

IV.—STAFFORDSHIRE, &c.

Miscellaneous Outdoor -	14	5 „ 7·72 „	143·00 „
Miners -	18	6 „ 7·30 „	141·08 „
Woodworkers -	20	5 „ 7·28 „	138·80 „
Ironworkers -	25	5 „ 7·10 „	140·25 „
Clerks -	30	5 „ 7·10 „	136·36 „
Labourers -	87	5 „ 7·08 „	140·26 „
Grooms -	15	5 „ 7·03 „	143·33 „
Shoemakers and Tailors	17	5 „ 6·91 „	133·00 „
Miscellaneous Indoor -	45	5 „ 6·84 „	135·44 „

V.—LANCASHIRE AND YORKSHIRE.

Ironworkers -	49	5 „ 7·37 „	139·66 „
Miscellaneous Outdoor -	40	5 „ 7·26 „	140·05 „
Masons, &c. -	19	5 „ 7·22 „	139·05 „
Clerks, &c. -	45	5 „ 6·92 „	137·95 „
Labourers -	170	5 „ 6·88 „	138·72 „
Miscellaneous Indoor -	48	5 „ 6·76 „	132·85 „
Woodworkers -	38	5 „ 6·75 „	137·76 „
Shoemakers and Tailors	21	5 „ 6·66 „	132·14 „
Spinners, Weavers, &c.	37	5 „ 6·63 „	132·13 „
Grooms -	12	5 „ 6·33 „	134·66 „
Miners -	10	5 „ 6·10 „	137·90 „

VI.—LONDON.

Miscellaneous Outdoor -	16	5 „ 7·36 „	139·12 „
Clerks, &c. -	66	5 „ 7·10 „	132·30 „
Labourers -	94	5 „ 6·91 „	137·52 „
Masons, &c. -	10	5 „ 6·90 „	137·70 „
Woodworkers -	30	5 „ 6·89 „	132·70 „
Shoemakers and Tailors	20	5 „ 6·65 „	134·30 „
Ironworkers -	15	5 „ 6·46 „	137·80 „
Miscellaneous Indoor -	57	5 „ 6·43 „	130·18 „
Printers -	10	5 „ 5·82 „	128·20 „

VII.—SCOTLAND.

Occupations.	Number.	Avgc. Stature.	Avgc. Weight.
Drapers, &c.	10	5 „ 8·80 „	138·50 „
Miscellaneous Outdoor	38	5 „ 7·93 „	143·44 „
Woodworkers	40	5 „ 7·74 „	139·67 „
Clerks	40	5 „ 7·72 „	140·10 „
Labourers	135	5 „ 7·43 „	142·00 „
Masons, &c.	31	5 „ 7·32 „	139·61 „
Ironworkers	63	5 „ 7·23 „	141·70 „
Weavers, &c.	27	5 „ 7·23 „	131·44 „
Printers	18	5 „ 7·21 „	131·44 „
Shoemakers and Tailors	32	5 „ 7·11 „	133·84 „
Bakers	15	5 „ 6·92 „	146·06 „
Miseellaneous indoor	49	5 „ 6·87 „	131·87 „
Miners	24	5 „ 6·70 „	133·54 „
Grooms	15	5 „ 6·56 „	133·00 „

In commenting on these tables, I shall consider separately each of the occupational classes into which I have divided the recruits. First in importance, as in number, come the “*labourers*.” It is unfortunate for my purpose that under this term are comprised in the recruiting books two or three sets of men who differ in several important respects, viz., the agricultural labourers or peasants, who are almost invariably born in rural districts or in villages; the railway labourers and excavators, not so exclusively of rural birth; and the general labourers, the unskilled workmen of towns, who are a very miscellaneous class, partly, indeed, consisting of the overflow and scum of the peasantry, but in great part townsmen by birth as well as habitation and manner of life, and, as a rule, inferior physically and morally to the country folk. This last section of the “*labourers*” contributes far more largely to the army, in proportion to its numbers, than does the first. It is probable, however that in the Sussex, if not in the Kent table, the majority of the recruits are really of the peasant class, the class to which, if my view be correct, we ought to look for the supply and revivification of our somewhat effete urban population. It is thus that I should explain the fact that the stature is higher in the labourers of the Sussex table than anywhere else except in the Seoteh one, and that it declines pretty regularly with the increase of the urban element. In the Staffordshire

table, indeed, it is a little higher than it ought to be on this view; but this superiority may very well, if not accidental, be a matter of race, my Staffordshire group including several of the more Scandinavian counties.

Clerks include shopmen, commercial travellers, &c. Many of them are born in the middle class, and in childhood are well fed and exempt from labour: on the other hand, the nature of their occupation after puberty is on the whole unfavourable, being more or less sedentary, and carried on in towns and often in impure air. The results are what might have been anticipated: the clerks are generally above the medium stature and below the medium weight.

Ironworkers and *Woodworkers* are two classes with several points of resemblance, but which come out with distinctive characters in these tables. In almost all branches of both, the work is active, and in most, especially of the former, laborious: in most cases it is carried on where there is free access of air, and the wages are sufficiently good to furnish a plentiful dietary. Probably more of the Ironworkers may be looked upon as picked men, some processes in the manufacture of iron requiring so much exertion and endurance of heat, that none but strong youths would willingly offer themselves for the work. The stature and weight are pretty much what one might have predicted; in both divisions the former ranges rather high, but there is a pretty constant though moderate difference in weight between the two, the ironworkers rather surpassing the average, the woodworkers not quite reaching it. A sub-class might be formed of the cabinet-makers, carvers, turners, &c., who work always indoors and with a less free motion, and of whom, as in almost all the smaller or more specialised handicrafts, the greater part are town-born. 42 of them yield averages of 5 ft. 6·88 in. and 133·6 lbs., which closely approach those given under the head of *Miscellaneous Indoor Occupations*, to which they might perhaps with propriety have been referred. The 158 carpenters, joiners, sawyers, wheelwrights, &c. who remain, will yield averages of 5 ft. 7·13 in. 138·0 lbs., so that their inferiority in weight to the ironworkers will still be pretty well marked. Sawyers are almost always light; their work

is extremely severe, and many of them suffer from pulmonary or cardiac disease.

The class of *Masons* (including stonecutters and bricklayers) is hardly numerous enough to yield satisfactory results. They appear to stand pretty well as to development in both height and weight. The chronic pulmonary disease, which is so destructive to stone-masons, does not often tell upon them until after the period of life with which we are concerned; and, with the exception of the stone-dust, the influences to which this class is exposed are almost wholly favourable.

Miners also are rather few in number, and their position is somewhat doubtful. The lead and tin miners seem usually to stand above the colliers; but if it be really so, it may be partly due to differences of race as well as to differences of occupation. The low stature of the Scotch miners, who are chiefly colliers, may perhaps thus be partly accounted for; for the evidence of surnames testifies to a notable infusion among them of English and Welsh blood.

I have set down the *Bakers* separately, though so few in number, because the short stature and high weight, which characterise them in the Summary, follow them through almost all my divisions, so that they may perhaps not be merely accidental. If not, they can only be accounted for by the combination of a mainly indoor employment with excess of farinaceous food.

Grooms are a peculiar class by nature and by selection. Short lads and men are generally preferred for the work; and moreover, unless I am deceived, the instinctive attraction towards the horse, found in grooms and in so many of what are called "sporting men," belongs to a temperament usually found among men of short compact build. The occupation is a healthy one, and the relative weight rules high.

Tailors and *Shoemakers* I have classed together. There is a striking resemblance between them as to the nature of their work, and the manner of carrying it on. No trades are more purely and strictly indoor and sedentary than these, and in each the labour is, generally speaking, restricted to certain monotonous and cramped movements of the upper extremities, while

the habitual position is such as to favour the production of visceral disease. There are, however, minor differences between the two. Of these the most important lies, I believe, in the fact that the tailors more frequently work in hot, crowded, and foul-aired rooms ; and to this their greater mortality in early life is probably attributable. Nevertheless the shoemakers, as seen in the out-patient rooms of hospitals, are, as a rule, the worse developed of the two, and they suffer more from dyspeptic affections than any other class of workmen. In the recruiting returns the tailors have slightly the advantage in height; but even in that respect they, as well as the shoemakers, fall considerably below the average ; while in weight their inferiority is still more marked.

There remain to be considered the numerous miscellaneous trades and vocations, which, as they could not be joined with congruity to any of the previous combinations, I have simply divided into *outdoor* and *indoor*. The one division shades off into the other in such a manner that I have, in several instances, had difficulty in placing the members of a particular trade on either side of the line. In such cases I have generally decided the matter in accordance with the amount of exertion involved, classifying the more laborious with the outdoor employments. In the outdoor class I have ranged the butchers, tanners, carters, sailors, gardeners, farmservants, gamekeepers, plasterers, ropemakers, porters, millers, brickmakers, firemen, and the like ; in the other, all those who work in metals on a small scale, or in textile manufactures, with the printers, painters, plumbers, potters, saddlers, &c. The physical difference between the two classes thus formed is very great, for in such a case the excess of $\frac{8}{10}$ of an inch represents, as I have already endeavoured to explain, an actual average excess in the mass of outdoor workmen which furnishes the recruits, over the corresponding mass of indoor workmen, which may perhaps amount to two inches or more. Nearly the same thing may be said as to the differences in weight, though on this subject my data furnish more hazy indications.

So much for the military returns from Great Britain. Those from Ireland wear a different aspect; they have more of ethnological interest, and in them the relations of variations of mean stature

to locality are somewhat clearer and of more value ; while the small number of recruits described otherwise than as "labourers" would render any comparison of occupations, such as I have made with respect to Great Britain, almost wholly useless. I shall therefore defer the consideration of these Irish returns until towards the close of my inquiry.

The lunatic and the criminal returns have each their own special aspect and character ; but both of these series have a general conformability with that of private returns.

The predisposing and exciting causes of lunacy and of criminality respectively, are so many, various and complex, that any physical character common to the whole of each series could not of course be expected to appear. And when I find that both lunatics and criminals are on the average shorter and smaller than sane and honest men, I deduce nothing more from the fact than this : that there are certain genera in each of these classes in which physical coincides with mental or moral degradation. Such I believe to be—firstly, hereditary lunatics, and those sprung from inbred families ; and, secondly, hereditary and professional criminals.

It should be noted that my schedules were filled up with such lunatics only as were in fair bodily health ; and that idiots and congenital imbeciles were expressly excluded. I struck out from them also all persons returned as "of no occupation", supposing such to have been usually either imbecile or insane from boyhood; *i.e.*, previous to the completion of growth. Those disqualified by this rule were mostly little men.

It is not possible to strike anything like a perfect average of either the Scotch or the English lunatics, because in some cases in Scotland, and most in England, I have only a sample of the asylum population ; and because, unfortunately, there are considerable gaps in the tables, Morningside, Aberdeen, and Dundee asylums having sent me no returns ; and the West Riding, Northumberland, Cornwall, and Lincolnshire, with four other English county asylums of less importance for my purpose, being similarly deficient.

The average for Scotland may, however, be roughly stated as somewhere about 5 feet 6·5 inches and 138 lbs. (naked) ;

the Borderers and Highlanders exceeding the standard of height considerably, and the Hebrideans falling much below it.

In some of the northern and north-eastern counties of England the stature is about the same as in Scotland. But in Wales and the southern counties, with very few exceptions, it ranges between 5 feet 5 inches and 5 feet 6 inches, and in London, Birmingham, Nottingham (town), Devon and Glamorgan falls below 5 feet 5 inches. The average weight varies more in England than in Scotland, and in some counties (*e.g.*, Kent, Norfolk, Gloucestershire) rises much higher. Something may be allowed here for national or racial varieties of temperament. The typical Saxon Englishman is constitutionally a heavy feeder, and prone to corpulence, as compared with the other inhabitants of our islands. Differences in dietary must also be taken into account, and especially the larger use of beer in English asylums.

It would appear that dark eyes and black or very dark hair are more common among lunatics than in the general population. Tall, dark-haired persons seem to be particularly subject to melancholia, and this fact accords with the ancient doctrine of temperaments.

The criminals from the General Prison of Scotland, of whatever nationality, surpass in size those from the English prisons; and the Scottish prisoners surpass the Scottish lunatics: on the other hand, in England the convicts, as a rule, hardly come up to the lunatics in stature and weight. This may, I believe, be accounted for by the greater proportion of hereditary and habitual criminals in the English prisons. Somerset, a mainly agricultural county, in which professionals are comparatively few, furnishes a striking exception to this rule as to stature: the prisoners at Taunton surpassing the Somerset lunatics in that respect, and about equalling the free population. (See 225-240, 315, and 343-344.) The inferiority of the townsmen to the country-born criminals is in general sufficiently marked. The returns indicate no peculiarity or predominance of colour among them, such as has been noted to occur among lunatics.

I will now proceed to consider the most valuable part of my material—the private returns from Great Britain—surveying

them firstly in geographical order, and confirming or correcting their indications by those of the other three classes of returns ; and thereafter endeavouring, partially at least, to unravel the respective influences of race and of the various media, such as soil, climate, and mode of life.

Roughly speaking, the natives of Scotland and of the north and north-east of England exceed in stature those of Wales and of the south and west of England ; the most notable exceptions to this rule being, in the northern division, the people of certain large towns and of some of the Hebrides, and in the southern, those of Cornwall and the Scilly Islands.

The Shetlanders seem to be of fair stature (about 5 feet 7·8 inches, or 1·723 metre), but their bulk hardly corresponds to their height. In the Western Islands there are considerable local variations. The Uist men, for example, are tall and large; the men of Lewis, and of St. Kilda, are, compared with Scotchmen in general, decidedly short, though they would not appear so in the south of England. The Lochbuie people, in Mull (No. 11) are remarkable for their huge size ; but this may not be common to the whole island. Taking the Hebrideans all together, they seem to be shorter, but hardly less bulky than the mainland Highlanders, and here the lunatic returns (263, 264) are confirmatory.

With respect to the Highlanders of the mainland, contrary opinions have been and are still often expressed. Some speak of them as gigantic ; others as stunted ; others, again, more discriminating, say that the descendants of the ruling families or septs are generally large and fair, those of the commonalty, or of dependent septs, small and dark ; or, lastly, that particular clans have often a common character, the Campbells, *e.g.*, being red-haired ; the Camerons small, wiry, and dark-haired.

I believe it would accord with what has been observed in other mountainous and sequestered regions, such as Switzerland and Styria, if there were considerable variations in average stature between one neighbouring valley or district and another. And, from general observation, I think such is the case ; and I regret that I have been unable to procure returns from some other portions of the Highlands, which might have brought out the fact.

Be this as it may, and whatever may have been the physical condition of the dependent Highlanders in former times, the evidence of all the four classes of reports—private, military, criminal, and lunatic—proves the modern Highlanders to be, as a rule, a tall and bulky race. Several of the private schedules were collected in such a manner as to avoid all suspicion of unfairness (*e.g.*, 17, 20, 22, 23, 25); and the averages yielded by them (about 5 feet 8·12 inches and $153\frac{1}{2}$ lbs., naked, = 1·731 metre and 69·6 kilos) do not differ much from those of the other returns. It is probable, but not proven, that the Athol and Breadalbane Highlanders (see No. 26) generally exceed their compatriots in bulk, if not in stature.

Among the Scottish Lowlanders, the people of the anciently Norse district of Caithness have been ranked by several observers as physically the finest peasantry in Britain. I should have been disposed to agree to this statement; but my figures (15 and 16) shew no difference between them and their neighbours. In Buchan and in the East of Scotland generally (30 to 45) we have still a tall and generally bulky race, with apparent exceptions, however, among the fisher folk and the town artisans.

The Edinburgh and Glasgow returns (46 to 48) are quite exceptional among the private ones, and tend to shew a considerable diminution of size in the townsmen. The military and criminal returns (349, 352) confirm this; the asylum ones (272, 273) do not; but some extensive observations on the *inhabitants* of Edinburgh, published in Johnston's *Physical Atlas*, yield further confirmation, giving a height, for the lower and middle classes, of 5 feet $7\frac{1}{2}$ inches, including shoes.

Proceeding southwards, we have from the Strathclyde and Galloway regions a very valuable and remarkable series of careful observations (49 to 54), which sufficiently attest the lofty, almost gigantic stature, of the local population. This rises in Upper Galloway (whence, from personal observation, I had expected to receive the highest average in Great Britain) to about 5 feet $10\frac{1}{2}$ inches (1·790 metre) *without shoes*.* The remainder of

* In some copies these figures have, through inadvertence, been placed in the wrong column.

Southern Scotland presents some variations : if the tallest men in Britain are found in Galloway, Berwickshire must have the honour of producing the heaviest (57). The Borderers in general equal or surpass the average of Scotland in both respects.

The Borderers of the English side have a still more unequivocal superiority over their own countrymen. Northumberland, thanks to Mr. Tate, is largely represented in the returns ; but, unfortunately, only 64, 71, and perhaps 66, can be taken as average samples. These three yield a mean of 5 feet 8·4 inches, and 154 lbs., naked (1·737 metre and 69·8 kilos.), which is probably little, if at all, over the mark. The county volunteers (63, 65-69) are about half-an-inch taller ; the country-born militiamen (70), who are taken from a less favoured class, and are certainly below the general average, are a full inch shorter. Mr. Tate thinks the mean of these two would be near to our desideratum. Some items in No. 70 may be useful, in conjunction with 323-4-5 and the lunatic returns, to enable us to form an idea of the extent of *national* differences in stature.

The average of Cumberland and Westmoreland, exclusive of Carlisle, comes out 5 feet 8·1 inches and 152 lbs., naked,* (1·730 metre and 68·9 kilos.), that of Westmoreland being, as it probably should be, the higher of the two. That of Durham is evidently rather lower ; but the county is insufficiently represented. This cannot be said of the great county of York, whence we have a large number of returns, from all parts and from all classes ; if one might presume to strike an average for a county within whose limits there is very great variation in all the media, though little in the race, it would come out about 5 feet 7·2 inches and 146 lbs., or 1.707 metre and 66·2 kilos. But this is an average of very discrepant elements. The unmixed and undwindled Yorkshire breed, in the hills and valleys of the east, north, and north-west of the county, rise to about the same level with the peasantry of Scotland and of the English border. No. 84 yields the tallest, and No. 88 the heaviest of the English averages. Of the contrast afforded by

* Henceforward, all measurements and weights spoken of are to be considered as taken without shoes or clothing.

the manufacturing towns I will speak hereafter : it affords a partial explanation of the low position of Yorkshire in the military returns.

Lancashire is a very exceptional county. The true native breeds used undeniably to be tall in the northern and rather large in the southern districts ; but all the four classes of reports, private, lunatic, criminal, and military, concur in averaging as low as, or lower than, those of England generally.

On the other hand, the Danish counties of the North Midland region, Lincolnshire, Nottinghamshire, Derbyshire, and Leicestershire, excluding only the large manufacturing towns, range rather high in stature. The averages for Lincolnshire are 5 feet 7·5 inches and 149 lbs. ; for Notts nearly 5 feet 7 inches and 142 lbs. That for Northamptonshire is hardly less ; but we are now coming to the frontier of undersized men. Part, at least, of Staffordshire belongs to the north of England in this point of view (see 121 and 123) ; but the comparatively high weight is the ruling characteristic of Staffordshire.

Returning to the eastern counties, we find a number of reports from Norfolk. Taken in connection with the military and lunatic statistics, they seem to indicate a generally high average of both stature and weight, culminating in the north-eastern and ethnographically remarkable district of Flegg (141) ; but sinking low in the central and perhaps other parts of the county. Suffolk stands low as to height, but comparatively high in weight. The Isle of Ely seems to produce rather tall men ; but in the southern part of Cambridgeshire, and the south-midland counties generally, we find a decidedly undersized population. Among the reports from this region, the Harpenden one (159, 161) is very valuable as being both extensive and unexceptionably fair ; it yields averages of little more than 5 feet 5·4 inches and 137 lbs. (1·663 metre and 63·2 kilos.)

I hope that the publication of this paper may lead to further observations on the physical condition of the working classes of the metropolis. My own efforts in that direction have had but slender results ; but No. 162 is a valuable specimen of a

community who seem to have dwindled down, under the influence of unfavourable media, to an extent, it may be hoped, unparalleled in Europe. The military, lunatic, and criminal returns all agree in placing the native Londoner very low in the scale of stature.

Turning again to the west, we find the averages at Birmingham not so much lower than those of the surrounding country as those at Sheffield. Worcestershire appears to stand well. Salop, whence the materials are pretty plentiful, yields averages (No. 180) much resembling those of the neighbouring North Wales. The character of the Welsh generally is moderate or rather short stature, with a bulk more than proportionate. Judging from my materials, I should estimate the mean height at little, if at all, more than 5 feet 6 inches, and the weight at 145 lbs. (say 1·680 metre and 65·7 kilos.) But there are portions of Wales (see 186, 187) where the native breed is tall as well as bulky.

Data are deficient, as already remarked, for the interesting county of Kent, except only Romney Marsh, whence 192 yields averages of 5 feet 7·1 inches and 145 lbs. But the general position of the south and south-east of England is rather low in the scale. The asylum reports for Sussex, Hants, and Wilts, being exhaustive, give valuable indications, and if we allow* an inch for the excess of stature in the sane over the insane, we get an average of 5 feet 6·4 inches, or rather less. One of 5 feet 6·3 inches, with a weight of 140·6 lbs., comes out from a summary of all my Gloucestershire reports (210-219); but the purely rural population would somewhat exceed this standard. The Somerset averages (224-240) are lower than those for Gloucestershire, and the asylum reports bear out the fact; yet Somerset, for reasons already touched upon, stands high in the scales of the military and criminal series. In the city of Bristol (220) the average of 5 feet 5·8 inches and 132 $\frac{1}{2}$ lbs. (1·67 metre and 60 kilos.) is probably very nearly correct, though it might have been elevated a trifle if I could have included in the tables a fairer proportion of the middle

* This allowance I deduce from a comparison of the two in several other counties.

class. The Devonshire men are (except towards the border of Cornwall) of short stature, apparently averaging about 5 feet 6 inches; but, like the Welsh, they are comparatively of good weight. Finally, the Cornish evidently merit the reputation, which they have enjoyed for centuries, of being a tall and stalwart race. I regret that I have no opportunity of testing the private reports by one from the county asylum; but from the former I should deduce a probable average stature of 5 feet $7\frac{1}{4}$ inches, and a weight of 150 lbs. (1.709 metre and 68 kilos.); and even this standard is clearly exceeded with respect to height by the people of Scilly, whose proportions certainly give the lie to the current notion that men and quadrupeds must degenerate in small islands.*

What may be the average stature of adult Englishmen is a matter of speculation and curiosity, on which one cannot give any but a cautious and guarded opinion. Without doubt it lies somewhere between 5 feet 6 inches and 5 feet 7 inches (1.676 and 1.702 metres). The mean of my private returns (excluding those which consist mainly or wholly of picked men) would occur somewhere about 5 feet $6\frac{2}{3}$ inches (1.693 metre); but the number of those reports whose average greatly exceeds this mean is greater than that of those whose average falls greatly below it. The mean of the English lunatic reports would be somewhere about 5 feet $5\frac{3}{4}$ inches; and comparison of these with the private reports leads me to think the average of able-bodied lunatics to be nearly an inch below that of the sane. The criminal statistics point to nearly the same conclusion.† Recruits over 23 years, including rejected men, average, as has been shewn, about 5 feet 7 inches; but the culminating point of the curve yielded by the numbers of men at each grade of stature falls short of 5 feet $6\frac{1}{2}$ inches. On the other hand, the classes from which most of these recruits are obtained, are certainly inferior to the rest of the population in

* The natives of the Isle of Ushant are taller than other Bretons; and the O'Driscolls, who inhabit the Island of Cape Clear, are also said to be remarkable for high stature.

† Quetelet found the convicts in Vilvorde prison to average nearly .8 inch (2 centimetres) below the free inhabitants of Brussels.

stature as well as in some other respects. On the whole, my estimate would be 5 feet 6 inches or 1.690 metre.

The average for Scotland must certainly be very much higher, perhaps as high as 5 feet 7½ inches; but this can be little better than a mere guess. That for Ireland cannot differ much from that for England; as may be gathered from the following indications:—1st. The English private returns run higher than the Irish ones (258, 359); but many of the former are taken from more favoured classes of the population. 2nd. The Irish military returns (353) overtop the English ones (352) by a quarter of an inch; but here the comparison of classes is probably favourable to Ireland. 3rd. The Irish lunatics about equal the English lunatics in stature, but fall below them in weight. 4th. The Irish criminals (326, 348, 351) equal or surpass the English criminals; but a larger proportion of the former are non-professionals in crime; and it is the professional criminal who contributes most to pull down the average stature of prisoners. 5th. In the Newcastle militia (70) the Irishmen hold a fair medium position.

The recruiting and other returns seem to indicate a slightly greater uniformity of stature among the Irish, very tall and (probably also) very short men being comparatively rare among them.

There is a remarkable uniformity in the several classes of returns as to the average weight of Irish peasants and labourers—an uniformity depending partly no doubt on the utter absence of corpulent persons among them. The naked weight may be estimated at about 138 lbs. (62·6 kilos.) The average of both Englishmen and Scotchmen, and indeed of Welshmen also, seems to exceed this. My private returns would lead me to put that of Englishmen somewhere about 145 lbs., and that of Scotchmen 10 lbs. higher; but in the latter case, and perhaps in the former also, sufficient allowance is not made for the under-sized and ill-fed population that crowds our large towns, and of which Nos. 47 and 48 are the only specimens in the returns from Scotland.

Data suitable for comparison with mine, taken from other countries and races, are, so far as I can ascertain, extremely

scanty. The conscription returns for France, which have yielded such valuable results in the hands of Broca, Boudin, Guibert, and Butillon, consist of young men in their twentieth year, and who consequently have not attained their full stature; and nearly the same may be said of other conscription returns. Dr. Short's careful observations on natives of the Dravidian portion of India, are, for the most part, applicable; and it is noteworthy that some castes in that region appear to surpass in stature the average Englishman, though they all fall below him in weight. Dr. Thomson's observations on the Maoris* are also fairly comparable, and some of those of the Novara expedition. But the only ones near home with which I am acquainted are some of those of Quetelet on the Belgians. He found the adult inhabitants of Brussels to average 1·684 metre (5 feet 6·3 inches) and 63·4 kilogrammes (139·8 lbs.) My 380 Gloucestershire men gave me exactly the same height, with a weight of 63·7 kilos. (140·5 lbs.) ; but of the Brussels men a considerable number belonged to the middle class, while of the 380 not more than a twentieth part were above the labouring class. The average weight of 40 Frenchmen, inhabitants of Massy, near Paris, was found by Tenon, in 1783, to be 62 kilogrammes (136·8 lbs.) These figures indicate less difference in favour of southern Englishmen, compared with their nearest Continental neighbours, than is generally supposed to exist. The common but erroneous opinion is no doubt derived partly from comparison of British with French, Belgian, or Rhineland soldiers. In most continental countries, a far smaller percentage of the population is excluded by the regulations as to stature, than with us in England. In France the proportion is 77 per thousand; while I have found in Northamptonshire, taking 5 feet 5 inches as the regulation height, 210 per ^{mille} cent. of adults beneath it; in Wilts and Somerset, 260 to 280; in Bristol, 353; and in Hertfordshire, 417. In point of fact the regulation height has more often been fixed at 5 feet 6 inches than at 5 feet 5 inches; and it is applied to growing youths of

* He found the Maoris to average 5 feet 6·25 inches, and 140 lbs. (1·683 metre and 63·5 kilos.), thus exactly equalling the Brussels and the Gloucestershire men.

19 or 20 equally with the grown men of 23 and upwards, who alone figure in my tables; and we may therefore confidently assume that in many parts of southern England, and particularly in some large towns, a large majority of young men are excluded from the army by the regulations. Many of these men have every qualification, except stature, for making excellent soldiers; and the impolicy of so narrowly circumscribing our choice of recruits is self-evident.

We may now proceed to dissect the evidence already laid down in its bearings on the great question whether race or media have the greater influence in determining the average size of the British people. In valuing the potency of race—that is, of indefinitely remote hereditary character—we are encompassed with difficulties, and are in danger of being reduced to arguing in a circle; for the characteristics we are accustomed to attribute to the several races which we believe to enter into the composition of our nation, are derived as much from observations of types now existing, or imagined to exist, as from authentic descriptions of those prevailing among our most remote ancestors, or positively identification of their traits by means of ossuary remains.

We know, indeed, that at the period of the Roman conquest the Caledonians were remarkable for their huge frames, and that certain other Britons were conspicuously tall; while we have reason to think (whether we adopt or reject Dr. Thurnam's views) that in certain parts, at least, of Britain, men of medium or short stature were, or had been, numerous. We have reason also to suppose that the Roman Conquest introduced an element of population into the east and south of Britain, among which a rather short stature prevailed. The "Saxon" invaders are thought to have been tall men ("Saxones vero staturâ et vigore maximi," says Henry of Huntingdon); and some of them were so; but we have not much evidence on the subject. The modern Frisians are certainly tall; but the Low Dutch race who dwell to the south of them, and whose kindred seem to have co-operated with them in the conquest and settlement of eastern England, are of a shorter and thicker

build.* The next element introduced—the Scandinavian—on the whole, much resembled the Frisian; the mean stature of the Norsemen was high. The modern Norwegians are generally large men; and of 20 Icelanders, whom Dr. Jon Hjaltelin, of Reykjavik, kindly measured and weighed for me as a sample of their countrymen, the average, corrected for shoes (or rather rivlins) and clothing, was about 5 feet 8·5, and 156 lbs. (1·740 meter and 70·7 kilos.) Immigration from France, during and after the Norman Conquest, and from the same country after the revocation of the Edict of Nantes, may have tended slightly to lower the stature in London, Norwich, and some other places or districts in the south and east of England, but hardly anywhere else. And still more recently, several other cities have had their population more or less modified by the infusion of a more purely Keltic element—Irish in Glasgow, Welsh in Bristol, both Irish and Welsh in Liverpool.

If we look at our facts in a broad and comprehensive way, we may be disposed to think that they present a certain degree of conformity to what a student of race history might have expected. Thus we find that, wherever the Scandinavian element is proved to be strong by historical, topographical, or linguistic evidence, the stature is decidedly high. This is the case in Shetland, Caithness, the eastern lowlands of Scotland generally, in Dumfries-shire, Cumberland, Westmoreland, Lonsdale, Durham, Yorkshire (except Sheffield and Haworth), Lincolnshire, Nottinghamshire, and Leicestershire, and in the hundreds of Flegg in East Norfolk. The island of Lewis does, indeed, furnish an exception; but the evidence of Captain Thomas, Dr. Mitchell, Mr. J. F. Campbell, and others (see the *Cran. Brit.*), would lead us to ascribe this to the presence of an aboriginal substratum of population of Finnish type and short stature; and in the district of the Butt, where other Norwegian characteristics break out vividly, the stature is said (though I can give no statistical evidence of the fact) to be decidedly superior to that found in other parts of the Lewis.

* Lubach. The fact is, however, one of common observation.

In Uist, where the Norseman seems to be crossed with the Gaelic Kelt, the men are tall.

I have omitted Northumberland from the foregoing list of Seandinavian districts, in deference to the weighty opinion of Mr. George Tate, and of Mr. Ralph Carr, of Hedgely. Doubtless the Anglian element prevails there; but it is difficult to suppose that the events of the eleventh century can have left Northumberland otherwise than deeply tinted with the Danish blood of the men of Deira.

The characteristic figure of the Seandinavian race is not so robust as it is often described, but tends rather to be graceful and *élancé*. It may be observed that in Shetland, Cumberland, the East Riding, Nottinghamshire, &c., the average weight is by no means large in proportion to the stature.

In the extensive and important region of the south and east, where Teutonic characteristics, modified by various admixtures, but almost entirely free from anything Scandinavian, may be looked for, our data indicate a good deal of variety; but, on the whole, the stature is comparatively short, and the weight rather high in proportion. Some of the apparent variations may be due to race-differences; *e.g.*, the taller stature in some parts of Kent may have to do with the presence there in large proportion of Jutes and Frisians, who are recognised by Mackintosh and other close observers. The Anglians (more or less crossed) of Northumberland and the Merse are very tall and large men.

Taking into account history, language, and physical characteristics, the so-called Kelts of our islands may be divided as follows:—

1st. The ancient and modern Caledonians. Here there is no difficulty: the same tall, large, and often red-haired people, who occupied the Grampians in Agricola's time, do so in our own time without apparent modification.

2nd. The undoubted Gael in Ireland and the western Highlands, &c. Always, probably, a tall race; generally, as we know them, somewhat bony and spare of flesh, but our returns from Scotland show in general very good weight. This race is currently believed to exhibit great variation under the in-

fluence of media. On this point see, further on, a discussion of the Irish military statistics.

3rd. The remnant of the northern Kymri in the hilly country to the west of Clydesdale, and in Upper Galloway. The same race, but with a stronger cross of the Teutonic (Anglian, or Anglo-Northman) element, seems to extend eastwards along the prolongation of the Cheviots, and to remain in Allendale, in South Northumberland (No. 71.) Its modern characteristics are very tall stature, comparatively moderate weight, with usually light eyes, and dark hair. Of its ancient ones we know nothing, except that very tall men did occur among these people in the days of Llywarch Hêl. In Cumberland, Westmoreland, and the south-eastern lowlands of Scotland, it is strong, but is not the prevailing element; and in less proportion is recognisable in many other parts of the north of England (and, according to Lhuyd, of North Wales).

4th. The Welsh, the people who still speak the Kymric language. Of their ancient characteristics we know no more than what is told us by Tacitus of the Silures: among their modern ones are short stature, with good weight, and a tendency to darkness of eyes, hair, and skin. The Devon men are a good deal like them in most respects.

5th. The Cornish. Much like the Welsh, and still liker the Devonians, these differ from both of them by their large stature, which has been a Cornish characteristic since mediæval days, at the least.

At the risk of some repetition, I have been thus particular in discriminating the several existing varieties, or divisions, of the British "Kelt," in order to exhibit the serious difficulties that lie in the way of the application of Broca's theories to the British population. The 3rd, 4th, and 5th divisions just enumerated, have, or have had, the same politics and traditions, and languages nearly related, or separated merely as dialects. Why, then, do they differ so remarkably in stature? If we say that the Cornish are the remains of the Lloegrians, and are not true Kymri, why do not the Devonians rank with them in stature? and why are the Armoricans, who are, or were, nearer in language to the Cornish, liker to the Welsh in their

short, compact build? And if we acknowledge a difference of race between the Strathclyde Cumbrians and the Welsh of Silurian stock, and suppose the former to have the true Kymri, the tall race of Edwards and Broca, and to have conquered the latter under the guidance of Cyneddha Wledig, the difficulty still remains that the two had a common language. I am far from saying that these points are incapable of being cleared up on the theory of permanence of race-type in stature; and some conjectural explanations suggest themselves to me; but the difficulties are certainly grave.

The inferiority in size of the people of several large towns, especially Sheffield, is obviously inexplicable, unless we acknowledge other modifying agencies than those of race.

Two minor questions fall to be considered in connection with that of the influence of race on stature. The first is that of the results of close-breeding and cross-breeding respectively: the second that of the relation of stature to complexion.

The belief is prevalent that in-breeding has a tendency to cause the breed to dwindle in size as well as in numbers. At the first blush, M. Broca's results obtained in Bretagne confirm this view, the Bretons of the central cantons, where little admixture of blood has taken place, being far smaller men than their compatriots in general. But the greater elevation of stature in some islands and other secluded districts, where the population, while far from being purely Armorian, has not been recently crossed, points to the essential character of the race, rather than its freedom from admixture, as the cause of its remarkably low stature; and such is the opinion of Broca himself.

I am able to quote a series of facts from my Welsh lists to prove that the stature of the native Welsh breed is elevated by an English cross. Thus, in No. 181, the men with English names average 1·3 inch (33 millimetres) above those with Welsh ones; in 164, 185, they surpass the latter by exactly half an inch; in 183, 190, and 191, taken together, by .38 inch; and in No. 138, together with a report from Mr. Struvé, of Coed Park, which was too late for insertion, ten Welshmen, with English surnames, exceeded 41 with Welsh

surnames by no less than 1·8 inch (46 millimetres). In the other returns from Wales no English surnames occur, but in 185 and 186, though the district is now thoroughly Welsh, the ancient Flemish cross may have left its traces in the greater size of the people.

It is possible that here, as in Bretagne, the superiority is inherent in the intrusive or crossing race, and not due to the mere fact of a cross in blood. For the English of Mercia are in general taller than the Welsh, though not very conspicuously so. In the border county of Salop, where about half the surnames seem to be of Welsh type, the English-named men in my lists have the advantage by nearly half an inch, so that the same elevation of stature does not follow on the crossing of the Mercian by the Welsh, as on the crossing of the Welsh by the Mercian stock.

Another side of the same problem may be illustrated from the Scottish returns, wherein the Boyndie and Rathen lists (30 and 32) exhibit the fishermen, very closely inbred communities, as inferior in size to the agricultural population. In 42 and 142, the difference is less strongly marked; in 59, 60, and 197, it is doubtful; and in 66 and 79 does not appear. In 249, the number measured is too small to yield evidence for so large a population as the Brixhamites. 203 is, I believe, a sample of an inbred community of rather small men; but, on the other hand, 88 furnishes a conspicuous counter-example. The researches of Dr. Arthur Mitchell* show, however, that the extent of in-breeding in many districts has been greatly overestimated. On the whole, the results of my tables tend to support, but only in a feeble way, the current opinion as to the advantageous effect of crossing upon size.

The relation of stature to complexion, or rather to hair-colour, has been investigated to an extent greater than its apparent importance might have warranted, in the hope of educating some law respecting the manner and consequences of the interblending of races. The results are by no means conclusive, but are not altogether void of promise. In most parts of Britain, the average stature of fair-haired is higher than that of

* Published in the *Edin. Medical Journal.*

dark-haired men; but in several districts the men who combine light eyes with dark hair carry off the palm: such is the case in Mull, Mar, Kenmore, and Lesmahagow. The only five considerable towns from which I have returns, viz., Bristol, Sheffield, London, Birmingham, and Glasgow, all conform to the rule; and the county of Leicester is the only important exception in the south of Britain, except Harpenden, in Herts, and the Scilly Isles, and perhaps Cornwall.

In the lunatic asylums, the relations of stature to colour are often nearly the same as in the reports from the same population; but where there is any difference between them, it consists almost always in the dark-haired lunatics being taller than their fellows. Such men are, I believe, generally melancholiacs.

It is doubtful whether any valuable conclusions could be drawn from this part of the investigation, unless it were carried out very much further. In the meantime, I am led to form the following hypotheses:—

1st. Individual differences in stature are closely connected with differences in temperament, and more remotely with differences in complexion. Thus, in this country at least, the majority of men of sanguine temperament have light brown hair, of melancholic men dark brown, of men of nervous temperament either fair or black, and so forth.

2nd. Of the several races believed to have taken part in the ancestry of our British population, those most distinguished for tall stature—*e.g.*, the Norsemen and Frisians—were generally fair-haired. It is probable, however, that pre-Saxon races of tall frame inhabited Caledonia (red or black-haired), Cumbria (brown, or dark-haired), and perhaps also Leicestershire and Cornwall.

3rd. In a homogeneous race temperament is the great determiner of stature, and as the divisions of temperament and of complexion intersect each other to some extent, it comes to be little more than a matter of chance whether dark or fair men average higher in a list of moderate number, such as most of mine are.

4th. Where the admixture of races is recent, or the races

have been unconformable, and have never become thoroughly blended, the taller race will continue to be represented, in complexion as well as height, and other physical characters, in the existing population.

For example, I look upon the Shetlanders as an heterogeneous mixture of two incongruous races; one, by far the more numerous, of Norse descent, tall, fair, and, on the whole, of sanguine temperament; the other, either Finnish (descended from the thralls of the Norse settlers) or aboriginal, short, dark-haired, Ugrian in feature, and melancholic in temperament. And in Bristol and the surrounding counties, on both sides of the Severn, I find the fair men generally taller than the dark, and more often presenting in feature and headform an approach to the Saxon and Frisian types. Nearly the same thing may be said of Lincolnshire, Nottinghamshire, and the East Riding, where the Danes furnish the most important light-haired element.

The idea that climate, *per se*, has any influence upon stature is very little supported by our materials. At the first blush, we might be disposed to think that a northern position, and a somewhat rigorous climate, operated favourably, probably by natural selection. But Cornwall furnishes a counter-exception too conspicuous to be disregarded. And the climate of Upper Galloway (No. 54), where the tallest men are found, is, compared with that of Scotland in general, rather mild than severe. Kerry, again, has the mildest climate in Ireland, but its people are physically superior to those of Connaught, the climate of which differs in no wise from that of Kerry, except in being rather colder and less genial. Climate, where it does influence the breed of men, probably does so either through natural selection, or by affecting his food and mode of life.

Differences of elevation, at least such moderate differences as occur in the British Isles, seem to be unimportant. See Nos. 25, 51-2-3, 71, 93, 121, 184-5, which include most of the very elevated districts in Great Britain; and 102, 104-5-6-7, 141, 152, 192, which are the lowest. Corpulence is rare at high levels, however.

Malaria has been recognised in some countries as a potent

cause of physical degeneration ; but I am not aware that it has ever been shewn to affect the average of stature ; and I am confident that it does not do so in our latitudes. Thus, the Zealanders and the Frieslanders are well known to be generally tall men ; and my returns from the fens of the Isle of Ely, from the neighbourhood of Boston, and Romney Marsh, point in the same direction.

On the supposed direct influence of soil on its inhabitants, I have little or nothing to say. Dr. Latham, long ago, pointed out to me the possibility of such an influence on the colouration of eyes and hair ; but I have not hitherto been able to put it to the test. M. Durand de Gros has lately, in an important paper on the influence of "milieux" in the Aveyron, claimed a higher stature for the natives, human as well as bovine, of the caleareous districts in that department. My tables do not bear fairly on the point. Any influence of this nature would, probably, be exercised through the food and water.

Variations in the quantity and quality of food may plausibly be supposed to have considerable influence on the development of the body ; but what is the exact kind of influence exercised may admit of much doubt. M. Broca, if I have rightly apprehended his meaning, thinks that scantiness of food, short of actual famine and the production of disease, does not prevent the growth of the body to the length proposed by nature. A remarkable instance in favour of his views is to be found in the Upper Nile, where the tribe of the Keks is described by numerous travellers as living in a state of chronic starvation, and skeleton-like emaciation, yet as being of great stature and length of limb. There are, however, a number of *reputed* facts that bear against this view, and an argument by analogy may be brought against it from a consideration of the variations in size of the breeds of cattle and horses, which seem to be related to local differences in quality of pasture. In this country we are much in the habit of confounding what we call poverty of food with insufficient quantity of the same. If, by the former term, we imply the comparative absence of costly luxuries, such as fleshmeat and fermented drinks, there can be no doubt that such poverty is, *per se*, quite guiltless of any deteriorating

effect on stature and bulk. But positive scantiness and insufficiency of alimentary material is quite another thing, which is, fortunately, not often observed in this country, except in unfavourable seasons, or in the most miserable classes. Edward Smith has shewn cause for believng that the Scotch, the Welsh, and even the Irish, are usually better off, as to quantity of food, than the bulk of English peasants and the lower class of townsfolk, though their food may be less costly, and, in one sense, poorer ; and if stature be really affected by chronic insufficiency of food, the only parts of the British Isles where the results are at all likely to appear are, I believe—1st. Some of the southern counties of England, where labour is superabundant and wages are low. 2nd. Connaught. 3rd. Some of the Hebrides. 4th. A few of the largest towns. And, in fact, it is precisely in these four quarters that almost all the instances of very low average stature do really occur. There is one important article of food, in the use or neglect of which great local differences are known to exist—I mean milk. From the great abundance of phosphatic salts contained in milk, it may reasonably be imagined that among ill-fed populations a great deficiency of milk may sometimes be attended with arrest, or lessening, of physical development. The fact that some pastoral and milkeating races, such as the Kirghiz, are known to be of small stature, can hardly be said to militate against this supposition : an excess of the phosphates may be, and probably always is, rejected by the organism, which, however, has no power of supplementing an absolute deficiency. Milk is much more used in Scotland and Ireland than in South Britain ; but within the limits of England and Wales, also, the differences are great. The counties in which the use of milk by the peasantry seemed to E. Smith to be large and universal are the following, which I have arranged in the order of quantity used :—Westmoreland, Northumberland, North Lancashire, Wales (but especially North Wales), Yorkshire, Cornwall, Devon, Notts, Worcestershire, and Cheshire ; Derbyshire, Northamptonshire, and Leicestershire, stand next below.

Of all this list, Wales and Devon are the only two provinces

in which the stature is below the English average; and in these two it is probable that the influence of race is perceptible: moreover, in some parts of Devon, the wages are notoriously low, and food of other kinds probably rather scanty. The exceptional position of Cornwall favours the theory of the importance of a constant and plentiful supply of food for the full development of stature; for the abundant supply of fish, the seafaring opportunities of the long and indented line of coast, and the wide diffusion and prosperity of mining industry, must for generations past have put the labouring classes of Cornwall, on the whole, in a better and more secure position than those of Devon and Wales, where these advantages have been enjoyed to a far smaller extent.

I have particularly investigated the nature of the customary diet in some of the districts where the greatest development in size seems to be attained; such are Nos. 54, 57-58, and 88, in all of which meal and milk form, or did lately form, the staple food of the people. On the other hand, in large towns, where I shall presently show that stature tends to decline, white bread is eaten; the supply of milk, and even the demand for it, is small; and the people are worse off in this respect than others, except those of some dairy districts in the south of England.

The apparent influence of certain occupations on the stature of those who exercise them, has already been partially discussed in connexion with the English military returns, and will come again under notice when we consider the results of massing people together in large towns; but, in the meantime, the private returns relating to miners may, perhaps, yield some noticeable facts. Nos. 52, 53, 71, 89, 184, 250, 251, 252, and, to a great extent, 254 and 255, consist of lead and tin miners; Nos. 76, 188, 214, 215, and 223 bis, of coal miners. Dr. Greenhow, in his medical reports to the Privy Council, has shewn that there exists a great difference between these two classes in their liability to pulmonary disease, the lead and tin-miners suffering severely from asthma and consumption, or diseases so called, and being supposed to transmit a hereditary susceptibility to their children. They are not otherwise, however, an unhealthy

set of men, and the causes which bring about this particular kind of mischief do not seem to operate unfavourably on the development of the body, for the average stature among them rules high, and, in some instances, as near Tavistock and Fowey, seems to surpass that of the general population. Colliers, on the other hand, are often short men. It is true that short but strongly-made men must be better adapted for the work of excavating thin seams of coal than taller men ; and, therefore, some process of unconscious selection may account for the tendency, which is most pronounced in No. 223 bis, to the production of a breed exhibiting short stature combined with heavy weight.

The differences between the upper and lower classes are considerable, and may be traced with probability to several causes, viz., 1st. Selection, natural or conjugal, the latter very little operative in the present state of society. Somehow, the Scandinavian type tends to prevail among the aristocracy ; and the Saxon among the trading class, whether through natural aptitude or the effect of media. 2nd. Greater advantages in food and air during childhood and youth ; and 3rd, and perhaps most important, freedom from overwork during the same period. It may be noted here that the observations of Professor Forbes at Edinburgh, and those taken at Cambridge, and sent by Dr. Whewell to M. Quetelet, referred to students of the upper class, and not fully grown, and therefore in neither respect average representatives of the British people, as they are sometimes assumed to have been. Erroneous inferences as to national differences have also been drawn from the superiority of Forbes's Irishmen to his Scotchmen and Englishmen, in height and strength, the fact being that the Irish-born students in Edinburgh are generally descendants of the Ulster colonists, more Scotch than English, and more English than Irish in blood.

The extent to which the upper classes surpass the lower in stature varies very much in different districts : so far as I can judge it is least, as a rule, in those where the general average is highest ; and this is what might be expected, as the differences in mode of life, and even in blood, lessen as we ascend

the social scale. A good specimen may be found in the return of Bristol Volunteer Riflemen, No. 223, and another in No. 220. It will be observed, also, that wherever I have stated that the middle-class element is large in any private return, the average is almost invariably rather high.

Farmers and farm-labourers—two classes differentiated chiefly by the accidents of social position—are mingled in a large number of returns; and in some instances I have separated the former; *e.g.*, in Nos. 51, 54, 69, 88, and 228. They enjoy, as a class, almost all possible advantages for physical development (including hereditary endowments, for they may almost be said to form a caste), and accordingly we find that their average size almost always rules high. 233 is a notable example of this, inasmuch as the labouring classes of West Somerset, who are by no means highly paid or highly fed, are shewn by several other returns to be generally of small stature. The averages of agricultural labourers vary greatly, and in such a way as to lead one to suppose that they are influenced both by selection and by *media*. Thus, in the Merse and in Flegg (57 and 141), the labourers about equal the farmers in stature: in the former, as in Galloway (54), and many other northern districts, they have the advantage of not being constantly overworked in early life, the Scotch peasant valuing education too much willingly to deprive his children of its advantages. In Lincolnshire, the agricultural labourers seem to fall below the rather high standard of the rest of the population; whether this fact may be at all connected with the formidable proportions assumed in this generation by the pernicious system of agricultural child-gangs, I am unable to say. In the counties round London, again (and especially in 159 and 161), the farm-labourers are an undersized class. This I believe to depend partly on the great demand in the metropolis for tall and well grown men, for policemen, railway porters, &c., which makes it so easy for such to better their condition, that the residuum of farm labourers may be considered to be a sort of *caput mortuum*. I am disposed to think that, in some instances (*e.g.*, 165), the inferior development of the labourers may be traced to the fact of their ancestors having degenerated

under the influence of manufactures formerly existing in the district ; but I am not able to make out a case in support of this view, and mention it merely as interesting, and capable of investigation. In South Gloucestershire, 35 farm-labourers yield a net average of 5·6·3 and 156 (1·684 met., and 70·75 kilos.), and this heavy weight runs through all the returns from which the list is compiled, and appears to be characteristic of the breed of men thereabouts, which differs manifestly from the neighbouring Somerset peasantry.

The physical differences between countryfolk and townsfolk are, perhaps, the most important ones developed in my tables. To the indications of degeneracy in the latter, the attention of the Social Science Association was called in two papers of my own,* and subsequently in one by Dr. Morgan, of Manchester ; but the statistical evidence which I can now adduce converts conjecture on this subject into certainty. Compare, for example, Nos. 46 and 47 with any of the Scottish rural returns, or even with 48. Again, in 70, observe the gradual elevation of stature of the militia-men, as we proceed from natives of Newcastle to those of Gateshead and the other suburbs, and then to those of the small towns and villages. It would be unfair to bring into strict comparison the gigantic rural volunteers in the preceding Northumbrian returns ; yet it may be remarked that the latter are for the most part only artisans and labourers, and that social superiority will certainly account but partially for the contrast. Next observe the Sheffield return (No. 95) ; the genuine natives of that town will be seen to fall considerably short of their fellow-workmen born in the surrounding towns and villages, and these again very much below the general population of Yorkshire and the other adjacent counties (78, 92, 101, 111, 117, 118, 121). At Haworth (93, 94, 99), the population of weavers is stunted in comparison with Yorkshiremen in general, but even among them the natives of towns fall below the natives of villages, so that the degradation of stature would appear to be gradual and progressive. The Lancashire and Norfolk returns are insufficient,

* *Trans. Social Science Association, 1857, 1861.*

the Nottinghamshire and Staffordshire fuller and more decided, but all point in the same direction. In those from Birmingham and Shrewsbury there is less difference; but the inferiority of the Bristol, Bath, and Exeter men (220, 223, 224, 247),* to their neighbours is pretty well marked. Finally, the London return (163), which certainly does not err by depreciation, is much below the average of England; and the remarkable one from Spitalfields exhibits a standard far inferior even to that of the kindred of these poor weavers, who dwell in the south midland regions of France.†

The lunatic, criminal, and military returns generally support the private ones; and in the case of the metropolis (308, 341, 352) their unanimity is very striking.

It may therefore be taken as *proved* that the stature of man in the large towns of Britain is lowered considerably below the standard of the nation, and as *probable* that such degradation is hereditary and progressive. And we must put aside, as unfortunately not applicable to ourselves, the observations of MM. Quetelet and Villermé, who found the inhabitants of Brussels and certain other towns, at the age of 19, slightly superior in stature to those of the surrounding country. This last fact may be accounted for, partly by the probability that as puberty arrives later in the country, so the full growth is not so quickly attained; partly also by the collection into the towns of Belgium and France of the majority of the upper, well-fed and comfortable classes, and by the inferior advantages enjoyed there by the rural population.

What are the causes which determine these variations of stature, which I have shown to exist in townmen and artisans? There are several which do, or may, or have been supposed to contribute to the result, but I think they may all be arranged under the following heads:—

1. Birth and rearing in
town or country ...
- { A. Influences prior to birth.
B. , , subsequent thereto.

* Compare also 221, 222.

† Stature rules low in the Cevennes, but yet above that of my Spitalfields people.

2. Selection and elimination { c. Natural or spontaneous.
d. Artificial.
3. Nature of employment.
4. Habits of life during youth.

1. Most of the workers in the smaller or more specialised trades are town-born ; for these trades are usually exercised in towns only, and it is much easier for lads who are on the spot to gain admission to them. Thus, I have found in Bristol that almost all the potters, ropemakers, cabinet-makers, bookbinders, etc., are townsmen, natives of Bristol, or other considerable towns. This does not apply so much to tailors and shoemakers ; for their arts, like those of the carpenter, mason and smith, are needed, and therefore exercised, everywhere to some extent.

A. Under this head comes the influence of race. In Bristol, for example, there is a great deal of Welsh ; in London and perhaps in Norwich, of French blood ; and the Irish element is beginning to leaven the town population everywhere to a slight extent. Here may also be mentioned the greater facilities which feeble and physically degenerate persons find in towns for contracting matrimony, and reproducing their defects and infirmities in another generation. There may be other hereditary influences apart from race and from disease, and the classes of grooms and miners are among the most likely to be affected in this way. Other possible influences prior to birth are those derivable from habitual drunkenness, or from phthisical or syphilitic disease in the parents ; or from insufficient feeding of the pregnant mother, or from too early marriage ; but only the third of these can be positively affirmed to have any effect on the development of the body as to size. All of them are probably more frequent in town than in country.

B. Hereunder are included various errors in the mode of bringing up children ; the effects of close and impure air on children, and of insufficient or unwholesome feeding. The more frequent deficiency of breast-milk in the mothers in towns is a great cause of high mortality and slow development, and may possibly influence the subsequent growth of the offspring ; and the want of a supply of good cow's milk,

and, indeed, of a demand for it among the lower classes, is of very serious importance, and unhappily affects the inhabitants of certain pastoral districts in England to a greater extent than even those of large towns.

2 C. By natural or spontaneous selection I mean the kind of influences that send to the sea the lad who has an adventurous disposition (with which generally concurs a compact and well-developed frame), or who lives on the sea coast. This subject borders on that of hereditary influence. I have elsewhere spoken of the *possible* effect of conjugal selection in modifying the type of a race.—(*Anthrop. Review*, i, 310. On the supposed increasing prevalence of Dark Hair in England). In certain states of society conjugal selection, either spontaneous or according to rule, operates towards maintaining the beauty and vigour of the race. Under our present circumstances it is very doubtful whether it continues to do so. Physical qualities have no longer the value they used to have in the matrimonial market; but I do not know that this applies specially to any particular classes of the population.

By natural elimination I mean, for example, the effect produced in a trade in which phthisis is very rife (such as that of the tailor), by the early death or withdrawal of those hereditarily or otherwise predisposed, who have often a peculiar bodily type.* Some of the agencies mentioned under 1 B, 3 and 4, may probably affect the physical type of succeeding generations of townsmen chiefly in this kind of way.

D. The effect of artificial selection is more generally recognised, and, as I think, even overrated. It is true, however, that a small active lad is often chosen to be a jockey or groom, a weakly one to be a tailor or bookbinder, a tall strong one to be a porter.

3. Influences from the nature of employments are numerous and various; we are concerned here only with those which

* Tall youths are certainly, on the whole, *cæteris paribus*, more liable than others to phthisis; but it is not at all clear that this applies to adults. Dr. Hill of Lymington found the average height (with shoes) of thirty phthisical adults in Brompton Hospital, to be 5 ft. 7·2 inches. They were from all parts of England.

affect the development of the body in size or weight, which are not necessarily or always identical with those which conspicuously shorten the duration of life. Thus, butchers and stonemasons are on the average rather short-lived, owing to causes which need not here be specified; but both are placed under conditions favourable to bodily development during the years from fifteen to twenty-five, when growth is being completed. The agencies which are really powerful are probably foul close air (as in tailors), cramped position (as in shoemakers), small wages yielding insufficient food (more likely to delay than to stop development), and long hours with insufficient sleep.

4. The early and copious use of alcohol and tobacco have the reputation, probably well-earned, of stopping growth; and are notably more rife in some trades than in others. The want of opportunity and stimulus for the development of their physical powers by young persons in towns, the earlier occurrence of puberty, itself an effect of complex causes, and the greater frequency of youthful profligacy, may all be noted here.

Such are the numerous possible causes of the comparative lowness of stature in particular classes. Do the tables in the present paper throw any light on their relative importance? They appear to me to do so. But, perhaps, the indications of the tables may be rendered clearer by the following epitome of the military ones.

TABLE VIII.

	A. FAVOURABLE CLASS, (Iron, Wood, Masons, Labourers, and Miscellaneous Outdoor.)			B. UNFAVOURABLE CLASS. Tailors, Shoemakers, and Miscellaneous Indoor.		
	No.	Stature.		No.	Stature.	
		Ft.	In.		Ft.	In.
Scotland	307	5	7·49	141	5	7·03
Sussex & Kent Groups .	572	5	7·07	99	5	6·92
Staffordshire Group .	155	5	7·23	62	5	6·87
Lancashire and York .	316	5	7·01	106	5	6·67
London	165	5	6·90	100	5	6·42

Neglecting for the present the Scottish recruits, we have here, in class B, a regular decline as we proceed from the rural to the metropolitan district, and probably we should have the same in A, but for the interference of the element of race in the Staffordshire group; as it is there is a general, but mode-

rate and irregular, decline in A. Thus is exhibited the unfavourable action of those causes which may be compendiously described as those affecting the town-born more than the rural population. On the other hand, the action of the causes connected with the employment itself is brought out conspicuously by the facts that in every territorial division class B stands below class A, and that in the metropolis, contrary to what might perhaps have been expected, the difference is greater than anywhere else.* It would seem, in fact, that the influence of town-birth is greatest in class B, and that the influence of unfavourable occupation is greatest in the towns; that while each class of agencies has a moderate deteriorating influence while at work separately, its effect is very greatly increased when it co-operates with the other. These results agree very satisfactorily with those I have obtained from personal observation in Bristol and elsewhere, and from the reports of my correspondents. Thus 30 natives of Bristol, employed by Messrs. Derham Brothers as rivet-shoemakers, yielded an average stature and weight of 5 ft. 4.90 in.† and 125.67 lbs., while the same number of men born in the county of Somerset, and employed in the same place and manner by the same firm, yielded averages of 5 ft. 6.74 in. and 134.0 lbs. And Mr. P. J. Worsley found that of the men employed in the Netham Chemical Works, 15 natives of Bristol averaged only 5 ft. 5.76 in. and 135.70 lbs., and 30 of the suburban parish of St. George's 5 ft. 6.24 in. and 138.13 lbs., while 27 from the rural parishes of Bitton and Hanham rose to 5 ft. 8.0 in. and 145.16 lbs. So much for the influence of birth; that of occupation seems to come out best in the details of the Sheffield and Bristol returns (96 and 220). Pending further investigations, I am disposed to think that the facts are best explained by the theory of a hereditary and progressive physical degeneration in certain classes of the inhabitants of towns. But, be this as it may, there can hardly, I think, be any ques-

* There is a wider opportunity for selection in towns than in the country, and men more often, probably, enter those trades for which they are bodily qualified.

† The following figures include shoes and clothes.

tion of the great national importance of the whole subject, at a time when the British people is rapidly being transformed from an agricultural into a manufacturing, from a rural into a civic people; when, with an increasingly-felt necessity for keeping up our military power, we have an increasing difficulty in obtaining recruits; and when the truth that both the individual and the national body require physical as well as mental and moral cultivation and development, is becoming more and more distinctly acknowledged. Thews and sinews may not be so universally and pre-eminently valuable among civilised as among uncultivated peoples; but in all ages, since the English became a nation, their position among other nations has been in a great measure due to the frequency among them of individuals of great strength and physical energy; and when we as a nation fall below others in this respect we shall suffer for it not merely in our military but in our commercial, and even in our scientific position.

I do not wish it to be supposed that I place a high value on superiority of stature as an individual advantage, or that I ignore the disadvantages that often attend it. I allow, too, that in nations, as in individuals, the greatest amount of physical vigour and hardihood by no means always accompanies the greatest size and stature. But if we examine only a single race or reputed race at a time, we shall find, I believe, that wherever that race attains its maximum of physical development it rises highest in energy and moral vigour. Thus the inhabitant of Oude or the Punjab is as superior in courage and energy to the puny Bengali as he is in bodily conformation. And, to come nearer home, I have shown that Scotland in general, Northumberland, Cumberland, parts of Yorkshire, etc., and Cornwall are the portions of Great Britain which produce the finest and largest men. I think it will be acknowledged that they also yield more than their share of ability and energy for the national benefit.

A P P E N D I X.

THE STATURE AND BULK OF THE IRISH.

For this I have to rely mainly on the military returns :—

The whole number of men they contain is 1517, a number sufficient, probably, for the determination of the average stature of the classes that yield recruits, but too few, unfortunately, for some of my more important objects.

I will first endeavour to determine the average stature of these classes in Ireland and in the several provinces, and will state the averages of weight and chest girth. Next, I will compare the Irish with the English, Scotch, and Welsh, and, in the last place, will attempt to investigate the relations of stature to race in the several provinces.

It is the peasantry, the artisans and handicraftsmen, and, above all the non-agricultural or general labourers, that fill the ranks. Of the classes that furnish very few recruits some, as the gentry, professional men, and farmers, are generally rather above the average of physique ; others, as sailors and factory operatives, fall below it in stature or bulk, or in both. These exceptional classes are less numerous in Ireland than in England ; and, owing to this fact, and to the higher rates of wages in some parts of the latter country, I think the recruiting returns there a less trustworthy guide to the subject in hand. Probably the Irish recruits almost equal in stature and fall somewhat below in weight, the average of that part of the general population which exceeds 5 ft. 5 in. in height.

The means yielded by the figures in the books are 5 ft. 7.25 in. and 138.03 lbs. The weights thus given admit of little correction, but the statures admit of and require much. Some of the examining officers take no note of fractions of inches ; with them every man ranging from a little below 5 ft. 8 in. to a little below 5 ft. 9 in. is set down at 5 ft. 8 in. ; and even those who measure to a quarter of an inch must in most cases allow a small surplus of height, averaging probably about 1-10th of an inch, unaccounted for. If we allow 0·15 in. and 47 lbs. for the unregistered surpluses we shall have 57·40 (1·712 metre) and 138·00 lbs. (62·8 kilog.) for the exact

average height and weight of a full-grown Irish recruit. The average girth of the chest is 34·73 in., but on this point it is impossible to compare the observations of different observers together with any confidence.

In all the provinces, but most of all in Connaught, a considerable portion of the population must fall below the standard height of 5 ft. 5 in. The average stature of the entire population, including these short men, may, however, be estimated, or at least conjectured, from the culminating points of the curves formed by the numbers at each inch in the scale, or between every two inches in the scale. In this way I arrive at the following means : for Dublin, about 5 ft. 6·4 in. ; for Ulster, Munster, and remainder of Leinster, about 5 ft. 6·8 in. or 5 ft. 6·9 in. (1·697 metre) ; for Connaught, probably as low as 5 ft. 5·5 in. ; while the labourers of Leinster birth, taken separately from the artisans and others, rise to 5 ft. 7·3 in. or there-about, and the agricultural labourers of Ulster and Munster are probably equally tall. For all Ireland the mean would be 5 ft. 6·5 in., or a trifle more. Some data supplied by Dr. Graham Balfour in the Army Medical Reports, lead me to think this rather under than over the mark. See also Nos. 258, 259, 322, 326, 348, 351, in my own tables ; 84 Irish reapers from Connaught and Ulster averaged 5 ft. 6·27 in. and 146 lbs. (in Johnston's *Physical Atlas*), but it is not stated whether shoes were included ; they were mostly from counties where the stature appears from my tables to be inferior.

I have already stated that I think the English and Scotch recruiting returns less trustworthy as indicators of the average stature than the Irish ones. Still I have thought it worth while to compare them together. The Scotch recruits are about equal to those of Leinster and Munster in stature and weight, and superior in both respects to the Irish, taken collectively, and they clearly exceed in girth of chest both English and Irish, though the Welsh may equal them in this point. The Welsh recruits weigh heaviest, but their stature is considerably lower than that of the Irish. The English vary very much ; some agricultural counties yield large men ; but on the whole they do not quite equal even the Welsh in stature or the Irish in weight ; and this seems to be mainly due to the low average of the recruits from the metropolis and from manufacturing districts, and to the short stature (perhaps a race character) prevailing in the south-eastern or Saxon part of England. At Bristol the Munster men inspected compare pretty favourably with those from the neighbouring districts, to whom they are decidedly superior in girth of chest ; and at Liver-

pool the Irish have the advantage in all three respects of the native Lancashire recruits.

In comparing the natives of the several provinces of Ireland, I have separated the men described as labourers from those attributed to all other occupations. This distinction would have been of more use if farm labourers and peasants had been set apart from ordinary town labourers, who are to a great extent a different class; but this has been done in the Cork and Belfast reports only. I have also, with a view to testing the connection between variations of race and of stature, placed on one side all the names of purely Irish origin, such as O'Shaughnessy, Sullivan, etc., together with a few such as Hart, King, Fox, and Harrington, which are known to have been adopted from the English by Irish septs, or to be translations of genuine Erse surnames. A few of mixed Scandinavian and Celtic origin, as Cottar and MacAuliff, have been included. On the other side, I have placed all the Anglo-Norman and Early English introductions, such as Fitzgerald, Burke, Joyce, and all the later ones, whether English, Welsh, Scotch, Huguenot, or Palatine, including here, not without some doubt, names from the Scotch highlands, where these can be distinguished from those of the genuine sons of Ulad.

The percentage of exotic or un-Irish names among the recruits appears to be as large as $42\frac{3}{4}$ per cent., and to vary from $62\frac{1}{2}$ in the three north-eastern counties to $28\frac{1}{2}$ in Connaught. The diversity between counties is even greater, but the numbers for most of the counties are too small to be of value. In Leinster the distribution of the two classes seems tolerably even, while in Ulster the foreign names decrease pretty regularly as one proceeds westward; in Munster, Tipperary and Limerick abound with foreign names; and in Connaught, Sligo and Mayo exceed the average of the province.

Whether these percentages represent with anything approaching to accuracy the proportion of the foreign blood in Ireland may, of course, very well be doubted. The most remote counties, which yield the smallest proportion of exotic names (*e.g.*, Kerry, Clare, Donegal) yield also very few recruits. My own observations go to show that while the great majority of the landed and professional classes bear names of English or Scotch origin, the preponderance of native names among the lower classes of all parts of the country, except, perhaps, Forth and Bargy, in county Wexford, is far greater than my table indicates. It is highly probable, and consists with what we know of the corresponding races in France, Scotland and Wales, that the invading race, so far as it has

remained in any degree separate, being more adventurous and less bound by family ties, may be much more disposed to enlist. The mixture of blood is probably nowhere complete, even where differences of religion have not interposed; and the fact that in every province, and in almost all the counties, the proportion of labourers to artisans, etc., is greater among the native names may be taken as a proof of this. I am disposed to think that the proportion of so-called Danish blood in Ireland is usually under-estimated; the Anglo-Norman sack and massacre of Waterford, for instance, could not have obliterated a tribe that had thriven there for hundreds of years; and I recognise the Scandivanian features and complexion in a large proportion of the people about the Waterford and Wexford estuaries. But setting the Danes aside, and beginning from the Anglo-Norman invasion, it seems probable that the assumption of English names by the Irish, and the comparative paucity of women among the invaders and colonists, must have more than made up for antagonising influences, and rendered Irish names less prevalent than Irish blood.

I have already remarked that the numbers belonging to single counties are too small to be at all trusted as data for averages. The great discrepancy between Kilkenny and Carlow, two counties which in most respects greatly resemble each other, is an illustration of the fact. It can hardly, however, be the result of accident that ten out of the thirteen counties whose recruits fall below the mean of Ireland lie together in a ring fence, as it were, extending from Dublin Bay to the Atlantic, nor yet that the figures belonging to Dublin and Connaught, in Table I, fall in every case below the average of stature.

Can these facts be best explained by allowing that in Ireland, as in France, the average stature varies with the race, and not with the influences (of climate, food, etc.), to which the race is subjected? Or do they rather point to the influence of unfavourable "media" in causing degeneration? We will begin with the former supposition. I do not believe the Gaelic Irish to have been homogeneous; but not even Sir William Wilde, nor yet any one of those four able labourers in the ancient Irish field, who have all left it and us so lately—not Petrie, O'Donovan, O'Curry, nor Windele—could give us reliable grounds for a local division of their several tribes. Taken altogether, they evidently were and are, at all events under favourable media, a tall race. (Compare O'Donovan's Paper, Froissart's informer, Dr. Davis's measurements from Kerry in the *Crania Britannica*, and the figures for Kerry and Donegal in the present paper). Whatever an importation of

old Norsemen and modern Scotchmen may have done, one of modern southern English and Welsh is more likely to have lowered the standard than to have raised it. But if so, why are the people of southern Leinster as tall or taller than the Munster men, and these latter so much taller than the Connaughters? Even the Danes will hardly serve to confront this difficulty. In Connaught the people with exotic names are the shorter, as they ought to be on this theory, but on the other hand in Leinster and Munster the proportions vary, and are on the whole adverse to it. The theory of permanence might to some extent be helped out by supposing the existence in some districts, *e.g.*, in Connemara and Northern Roscommon, of a small, dark-haired, and often dark-eyed race (possibly the true Firbolgs), left as islands by the flow of the tide of large-boned, long-headed, hard-featured, grey-eyed, dark-brown-haired men, who yield the common type of the Irish Kelt. If so, the people in County Cavan, whom Wilde describes as rounder-headed and fairer than other Kelts, may possibly be relics of the Danaans, and not, as I used to believe, mere Saxon *parvenus*. But if all this must be summarily dismissed as far-fetched, let us see what can be made of the popular solution of the matter, the theory that the Connaughters had degenerated under the influence of semi-starvation, until their kinsmen across the Shannon would no longer acknowledge the connection. This view was brought forward years ago by a writer in the *Dublin University Magazine*, and so forcible and graphic was the picture he drew of the dwarfish, pot-bellied, abortively-featured, prognathous "spectres of a people once able-bodied and comely" that haunted Sligo and Mayo, that it has been quoted by every monogenist writer at home and abroad ever since. The passage is entirely a libel on the natives of eastern Sligo; but as I never visited Mayo I am not prepared to deny that it may be more applicable there. It does not apply to Connemara, where the people, though small, are well-built and well-favoured, nor to Joyce's and O'Flaherty's country, near Galway, where they are notoriously tall.

The evident, though moderate, degeneration of stature in Dublin, where the race elements are pretty well known, does, however, incline me to think that the same thing may have really gone on in Mayo to a greater extent. If so, its occurrence, and the fact that it appears to have been greatest in the people with exotic names (if we may trust to so small a number), may possibly be explained in the following manner. It is evident that a large number of the landholders and townsmen in

the three other provinces, with their families and dependents, were "transplanted" into Connaught at the time of the Cromwellian Settlement. Probably most of these may have subsequently returned: but the ultimate result can hardly have been anything else than that the more helpless remained in little communities, to a great extent of English blood, in an ungenial climate and among a half-alien people, until they sank into a lower condition than those natives themselves, and were finally absorbed by them.



